

Stamolys CA 70 CR

Analyzer for Chromate Measurement



The Stamolys Analyzer CA 70 CR is a compact analysis system for chromate for use in industry applications. Chromate is determined using the photometric measuring principle.

Applications

- Chromate monitoring in industrial wastewater plants
- Chromate monitoring in process industry

Features and benefits

- Direct reaction in photometer at constant temperature
- Low system volume required due to short distances
- Low reagent requirement
- Small sample volume
- Sample heating system
- Compact instrument design
- User friendly user interface
- Sample stream monitoring and plain text error menu
- Measuring value storage using integrated data logger
- Automatic calibration

Quality made by
Endress+Hauser



ISO 9001

Endress+Hauser

The Power of Know How



Measuring system

The complete measuring system consists of

- the StamoLys Analyzer CA 70 CR
- Sample treatment system

Complete measuring system

StamoLys Analyzer CA 70 CR with sampler



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Measuring principle

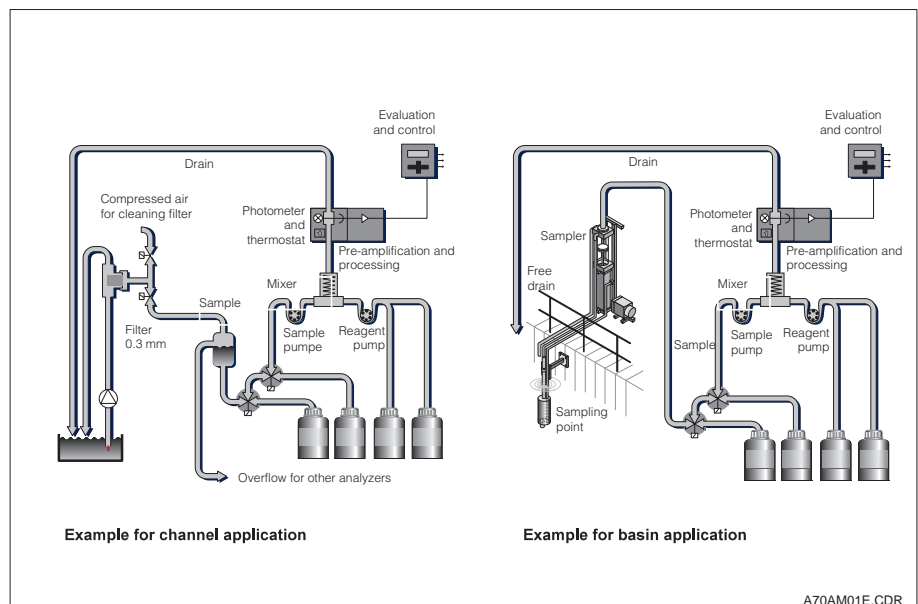
Sample conditioning is not necessary if the sample is clean (particle size $< 50 \mu\text{m}$), the sample temperature is less than 45°C (115°F) and the sample pressure less than 0.4 bar (5 psi).

After sample conditioning, the Analyzer sample pump conveys the permeate to a mixing vessel. The reagent pump adds reagent at a specific ratio. As a result of the reaction with the reagent, the sample turns a characteristic colour which is measured in the photometer. The temperature in the photometer is controlled thermostatically so that the reaction is reproducible and takes place within a short period of time (2 min).

The instrument works acc. to the diphenylcarbohydrazide method. The chromate reagent incorporates an indicator dye which turns the sample from colourless into pink if chromate is present. The colour intensity is proportional to the chromate concentration.

The chelate method only detects hexavalent chromate ions. Complex chromate cannot be detected by this method.

The absorption of measuring light is measured quantitatively in the photometer at 565 nm. The measuring light is compared in the photometer with a reference light at a wavelength of 880 nm to prevent any effects on results due to turbidity.



Application examples of StamoLys CA 70 CR

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Scope of features

An **analogue output at 0/4 ... 20 mA** and **programmable limit contactors** control the process directly.

A **serial interface** permits the digital recording and processing of measured values.

A **plain text error menu** facilitates diagnosis in case of operating trouble.

An extensive **self-monitoring function** prevents any malfunctioning.

An **automatic self-cleaning feature** prevents deposits and invalidation of measured values.

At programmable intervals, the system performs an **automatic calibration** and monitors the calibration parameters in order to ensure reliable measured values. At standard measuring cycles restocking of reagents is sufficient only once a month.

Technical data

General data

Manufacturer	Endress+Hauser
Instrument designation	StamoLys Analyzer CA 70 CR

Mechanical construction

Dimensions of Analyzer (h x w x d)	840 x 530 x 330 mm (non-cooled version) 840 x 530 x 430 mm (cooled version)
Weight	approx. 40 kg (non-cooled version) approx. 50 kg (cooled version)
Capacity of reagent tank	2 x 1 l
Capacity of standard liquid tank	1 l

Materials

Enclosure	Stainless steel
Front window	Plexiglass®
Continuous tube	Norprene®
Pump tube	Tygon®, Viton®

Input

Measuring parameter	Chromate
Measuring range	0.1 2.50 ppm Cr(VI) (mg/l) 0.2 5.00 ppm Cr(VI) (mg/l)
Measuring light	565 nm
Reference light	880 nm
Measuring interval	2 ... 120 min
Accuracy	3% of upper measuring range
Sample requirements	15 ml/measurement, 1 ml/min
Reagent requirements	2 x 0.2 ml/measurement, 2 x 1 l/month

Output

Analogue output	0/4 ... 20 mA
Permitted load	max. 500 Ω
Data interface	RS 232 C
Relay outputs	2 limit contactors, 1 error signalling contactor
Load rating	30 VA, max. 48 V AC, 30 V DC at 0.5 A

Electrical data

Power supply	115 V AC / 230 V AC ±10%, 50/60 Hz
Power consumption	approx. 40 VA (non-cooled) approx. 200 VA (cooled)
Current drain	approx. 0.15 A (non-cooled) approx. 0.9 A (cooled)

Maintenance and calibration

Calibration interval	0 ... 72 h
Maintenance interval	3 months
Maintenance requirements	30 min/week

Ambient conditions

Temperature	5 ... 40 °C
Ingress protection	IP 43

Subject to modifications.

Technical data

Specification for customer sample conditioning

Sample conditioning	Sample temperature	< 45 °C (115 °F)
	Sample pressure	< 0.4 bar (5 psi)
For 1 measuring point	Sample flow rate	min. 0.3 l/h or 5 ml/min
	Sample per measurement	20 ml
	Sample condition	low in solids (particle size < 50 µm)
	Process connection	3.2 mm (for tube ID 3.2 / OD 6.3)
For 2 measuring points	Sample distribution	must be external
	Measuring point identification	Channel 1: 0 V signal at terminal 55 Channel 2: +24 V signal at terminal 55 (+24 V signal applied to terminal 54)
	Pulse length	min. 5 s from start of measurement

Accessories

Wall bracket for CA 70

- cooled: Order No.: 51503063
- non-cooled: Order No.: 51503061

Reagent sets for CA 70 CR:

- Reagent solution CR1, CR2, 1l:
Order No.: CAY846-V10AAE
- Inactive reagent CR1, CR2, 1l:
Order No.: CAY846-V10AAH

- Standard solution 1 mg/l Cr(VI), 1l
Order No.: CAY848-V10C10AAE
- Standard solution 2 mg/l Cr (VI), 1l
Order No.: CAY848-V10C20AAE

Product structure

StamoLys Analyzer for Chromate CA 70 CR	
Measuring range	
A	0.1 ... 2.50 ppm Cr (mg/l)
B	0.2 ... 5.00 ppm Cr (mg/l)
Y	Special version acc. to customer specifications
Sample transfer	
1	sample from a measuring point
2	alternating samples from two measuring points
Power supply	
0	230 V AC
1	115 V AC
Sample collector	
A	CA 70 without sample collector
B	CA 70 with sample collector
Equipment	
1	without reagent cooling
2	with reagent cooling
Communication	
A	RS 232 and 0/4 ... 20 mA
Additional equipment	
1	Quality certificate
CA 70 CR-	complete order code

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