

# COD100

Laboratory COD Analyzer · Closed Tube Digestion · ISO 15705:2002 · EPA 410.4

The **COLO COD100 laboratory COD analyzer** is a compact and reliable system for precise determination of **Chemical Oxygen Demand (COD)** in water samples. The instrument follows a standardized **closed tube dichromate digestion method** with spectrophotometric detection, making it suitable for environmental laboratories, water treatment plants, and industrial wastewater monitoring.

COD ANALYZER

ISO 15705:2002

EPA 410.4

420 / 620 NM

USB EXPORT

200 DATA SETS

COD100R REACTOR

Document type: **Technical Specification Sheet**

Format: **Print Edition · A4 Landscape · V9**



COD100 · Laboratory COD Analyzer



COD100R · Digestion Reactor Accessory

INSTRUMENT

COD100 · COLO.Science

ADDRESS (HQ)

Polje ob Sotli 4  
SI-3255, Slovenia

CONTACT

sales@colo.si  
+386 70 713 437

# COD100 · laboratory COD analyzer

## technical specification sheet

CLOSED TUBE DIGESTION

POTASSIUM DICHROMATE METHOD

420 / 620 NM

±8% ACCURACY

≤3% REPEATABILITY

— Standardized COD determination for water and wastewater laboratories

### General & analytical specifications

<b>Instrument identity</b>	
Model	COD100
Instrument type	Laboratory COD analyzer
Measurement parameter	Chemical Oxygen Demand (COD)
Intended sample types	Water samples, wastewater, surface water, and industrial effluent
Compliance	Designed in line with ISO 15705:2002 and EPA 410.4
<b>Measurement ranges &amp; optical detection</b>	
Low-range COD	0–150 mg/L
High-range COD	150–1500 mg/L
Detection wavelength (low range)	420 nm
Detection wavelength (high range)	620 nm
Detection principle	Spectrophotometric measurement of generated Cr <sup>3+</sup> after digestion
<b>Performance parameters</b>	
Accuracy	±8%
Repeatability	≤3%
Calibration concept	Two-point calibration using standard solutions
Memory capacity	Up to 200 sets of data
Data export	USB interface



## Method principle, usability & reactor configuration

### Measurement principle

**Analytical method:** Closed tube digestion using potassium dichromate ( $K_2Cr_2O_7$ ) as a strong oxidant.

**Reaction medium:** Strongly acidic environment with sulfuric acid and silver sulfate catalyst.

**Reaction temperature:** Up to 165 °C during digestion.

**Oxidation pathway:** Organic compounds are oxidized to  $CO_2$  and  $H_2O$ , while Cr(VI) is reduced to Cr(III).

**Result generation:** The measured absorbance is proportional to the COD value of the sample.

### Laboratory workflow highlights

**Standardized workflow:** Recognized digestion-based COD procedure suitable for regulated laboratory practice.

**Result consistency:** High repeatability supports reproducible daily testing routines.

**Range flexibility:** Dual-wavelength approach supports both lower and higher COD concentration ranges.

**Laboratory suitability:** Compact design supports routine use in environmental and utility laboratories.

### Data handling & usability

**Data storage:** Stores up to 200 sets of measurement data for laboratory traceability.

**Data transfer:** USB output supports convenient export and reporting workflows.

**Interface concept:** User-friendly operation for modern laboratory environments.

**Repeatable monitoring:** Suitable for standardized monitoring of wastewater, surface water, and industrial samples.

### Optional accessory · COD100R reactor

Accessory model	COD100R Reactor
Sample capacity	Supports digestion of up to 21 samples simultaneously
Temperature range	Adjustable from 100–165 °C
Digestion time	Configurable from 0–120 minutes
System role	Dedicated digestion support for efficient batch preparation prior to COD measurement

## Product visuals & applications



**COD100 analyzer · compact bench-top system for COD determination**



**COD100R reactor · digestion accessory for multi-sample preparation**

### Applications & laboratory use

Application field	Application description
<b>Environmental laboratories</b>	COD100 supports routine COD determination in laboratories focused on environmental water quality control, regulatory sample evaluation, and laboratory-based compliance workflows.
<b>Water treatment facilities</b>	Suitable for process monitoring and verification tasks in water and wastewater treatment environments where repeatable digestion-based COD analysis is required.
<b>Industrial wastewater monitoring</b>	Useful for laboratories and industrial facilities that need standardized COD testing of effluent streams and process-related water samples.
<b>Surface water testing</b>	Applicable to routine assessment of contamination load and oxygen demand indicators in surface water samples.

## Operational highlights & practical notes

Operational highlights		Practical notes	
Method reliability	Digestion plus spectrophotometric detection provides a classical and standardized COD workflow.	Configuration note	Final package may include analyzer only or analyzer plus COD100R digestion reactor, depending on workflow needs.
Range flexibility	Dual wavelength approach supports both lower and higher COD concentration ranges.	Application note	Method suitability should be confirmed against the laboratory's internal SOP, standards, and target concentration range.
Laboratory efficiency	The optional COD100R reactor improves batch handling and digestion efficiency.	Document note	This sheet summarizes the visible technical and application information supplied for the COD100 system.

### INSTRUMENT

COD100 laboratory COD analyzer

### ACCESSORY

COD100R digestion reactor

### METHOD

Closed tube dichromate digestion

### OUTPUT

USB data export

### HEADQUARTERS ADDRESS

**Polje ob Sotli 4**  
**SI-3255, Slovenia**

**Application guidance:** tell us your sample type, expected COD range, throughput needs, and whether you need the digestion reactor included. We will propose the matching COD100 configuration for your laboratory workflow.

### QUICK CONTACT

**Web:** [colo.si](http://colo.si)

**Email:** [sales@colo.si](mailto:sales@colo.si)

**Phone:** **+386 70 713 437**

**Knowledge hub:** [COLO.Science](#)

### COLO.SCIENCE · NEXT STEP

## Explore the product, continue with COLO.Science, or request a quotation

Use this technical specification as a reference document, then continue to the COLO website, request a quotation for the COD100 configuration, or explore application guidance and laboratory knowledge resources.

[Explore COLO.si](#)

[Visit COLO.Science](#)

[Request a Quote](#)

Web: [colo.si](http://colo.si) | Knowledge hub: [COLO.Science](#) | RFQ page: [colo.si/contacts/](http://colo.si/contacts/)

### Manufacturer & configuration notice (important):

Specifications in this document are provided for general reference and may represent a typical configuration. COLO reserves the right to change technical specifications without notice.

For procurement and tender purposes, the **only valid and binding specification** is the official COLO quotation and the accompanying technical specification that is **engineering-approved**.