

COD Setups COD (ISO 15705:2002) COD Photometer

Determination of the chemical oxygen demand index (ST-COD)

Small-scale sealed-tube
Total range 0 - 15000 mg/l



Waste water parameter COD

The chemical oxygen demand, ST-COD value (ST = small scale sealed tube), of water as determined by this dichromate method can be considered as an estimate of the theoretical oxygen demand, i.e. the amount of oxygen consumed in total chemical oxidation of the organic constituents present in the water.

COD Photometers

With a measuring range from 0 to 15,000 mg/l O₂, the Lovibond® COD photometers are suitable for waste water testing.

Two LEDs light sources with long-term stability ($\lambda_1 = 610 \text{ nm}$; $\lambda_2 = 430 \text{ nm}$, according to ISO 15705:2002), a waterproof sample chamber, a large digital display, and the user-friendly keypad ensure maximum operating reliability and convenience.

MD 100 COD (in case) Order code: 27 61 20

MD 110 COD (in case) Order code: 296 12 02

MD 200 COD (in case) Order code: 289 25 02

MD 600 COD (in case) Order code: 21 40 20

MD 610 COD (in case) Order code: 21 40 25

Ranges

0 – 150 mg/l O₂ ± 3,5 %^{*} FS
0 – 1500 mg/l O₂ ± 3,5 %^{*} FS
0 – 15000 mg/l O₂ ± 3,5 %^{*} FS

* tolerance based on the use of potassium-hydrogenphthalate standards (DIN 38409)

Setups COD

The Lovibond® COD Setups allow highly sensitive and precise water testing with minimum effort. They measure the ST-COD concentration by photometric detection employing a linear relationship between absorbance and concentration.

After adding the sample to a Lovibond® COD tube test (LR, MR according to ISO 15705:2002), it is heated in the reactor for two hours at 150 °C and then analysed in the photometer.

The COD Setups comprise the photometer, 25 tube tests for each of the two lower measuring ranges, a reactor for sample digestion and a vial stand.

COD Setups

MD 100 COD Order code: 27 61 30
Instrument in carrying case

MD 110 COD Order code: 29 61 302
Instrument in carrying case

MD 200 COD Order code: 289 26 02
Instrument in carrying case

MD 600 COD Order code: 21 40 40
Instrument in carrying case

MD 610 COD Order code: 21 40 41
Instrument in carrying case

Delivery Content

- adapter for round vials ø 16 mm
- 2 sets of tube tests 0-150 mg/l
0-1500 mg/l
- thermoreactor RD 125
- tube stand
- 2 syringes 1 ml, 2 ml
- batteries
- warranty information
- certificate (COC)
- instruction manual

COD VARIO tube tests

The Lovibond® COD VARIO tube tests are available for the measuring ranges 0-150 mg/l O₂, 0-1500 mg/l O₂ and 0-15000 mg/l O₂. Their chemical properties and a 16 mm tube diameter make them compatible to Hach® devices.*

Tube tests	Order code
0-150 mg/l O₂ (25 pc.), mercury free** (25 pc.) (150 pc.)	2 42 07 10 2 42 07 20 2 42 07 25
0-1500 mg/l O₂ (25 pc.), mercury free** (150 pc.), mercury free** (25 pc.) (150 pc.)	2 42 07 11 2 42 07 16 2 42 07 21 2 42 07 26
0-15000 mg/l O₂ (25 pc.), mercury free** (25 pc.) (150 pc.)	2 42 07 12 2 42 07 22 2 42 07 27

** without chloride removal

Standard solutions

Standard solutions are solutions with a defined concentration and are provided to check the operation methods and devices of the cuvette tests as well as the condition of optical filters and the instrument.

Standard solution	Quantity	Code
100 mg/l COD	30 ml	2 42 08 03
500 mg/l COD	30 ml	2 42 08 04
5000 mg/l COD	10 ml	2 42 08 05

Highlights

- ST-COD sealed tubes ready for use
- Suppression of chloride interference up to 1000 mg/l (LR & MR)
up to 10000 mg/l (HR)
- Mercury free tube tests, in absence of chloride interference
- 3 ranges:
Low range:
0 - 150 mg/l, meets ISO 15705:2002
Middle range:
0 - 1500 mg/l, meets ISO 15705:2002
High range:
0 - 15000 mg/l

Thermoreactor RD 125

For the Tube test digestion of:

COD (150 °C)

TOC (120 °C)

Total Chromium (100 °C)

Total Nitrogen (100 °C)

Total Phosphate (100 °C)



Chemical digestion of samples is required for the photometric determination of COD, TOC, total phosphate and total nitrogen.

The required temperatures and reaction time can be selected by using the membrane keypad of the reactor RD 125. The unit works at three different temperatures (100 / 120 / 150 °C) and three pre-set reaction times 30 / 60 / 120 minutes). When digestion is complete, the reactor automatically switches off and gives a corresponding LED indication with short beep alarm.

The RD 125 reactor is fitted with 24 holes for 16 mm diameter vials.

With the voltage switch on the back 230 V and 115 V are selectable.

COD Reactor RD 125 Order code: 2 41 89 40

Technical data RD 125

Power supply	230 V / 50-60 Hz or 115 V / 50-60 Hz (switchable)
Power	550 W
Dimensions	248 x 219 x 171 mm
Weight	3.9 kg
Materials, housing	ABS
Protection grid	PPS
Lid	PC
Block insert	PBT
Heating block	Aluminium
Holes in the aluminium block	24 holes, 16.2 mm ± 0.2 mm
Selectable temp.	100 / 120 / 150 °C
Probe type	Pt100 A class
Temperature stability	± 1 °C at the Pt100
Selected time	30 / 60 / 120 / min. and continuous operation (∞)
Heating up	from 20 °C to 150 °C in 12 min.
Protection against overheating	at the alu block at 190 °C
Beeper	max. 88 dB (piezo buzzer)
Environmental conditions	10 – 40 °C max. 85 % rel. humidity

CE-Conformity

Photometry

Waste Water Setups

Waste Water Setup MD 600 21 41 00

Photometer MD 600 with standard accessory,
Infrared data transmission module IRiM

Waste Water Setup MD 610 21 41 10

Photometer MD 600 with standard accessory
Bluetooth® data transmission

Waste Water Setup SpectroDirect 71 21 00

Spectrophotometer SpectroDirect
with standard accessory, 5 round vials ø 24 mm

Delivery Content

- Thermoreactor RD 125
- tube stand
- membrane filter set
- instruction manual
- warranty information

Ranges

COD 0 - 150 mg/l and 0 - 1500 mg/l,
Ammonia 1 - 50 mg/l N,
Nitrate 1 - 30 mg/l N
Nitrite LR 0,01 - 0,3 mg/l N
Nitrogen 5 - 150 mg/l N
Phosphate 0.02 - 1 mg/l P / 0.06 - 3.5 mg/l PO₄

Reagents

COD 0-150 mg/l O ₂ (25 pc.), mercury free ** (25 pc.) (150 pc.)	2 42 07 10 2 42 07 20 2 42 07 25
CSB 0-1500 mg/l O ₂ (25 pc.), mercury free ** (150 pc.), mercury free ** (25 pc.) (150 pc.)	2 42 07 11 2 42 07 16 2 42 07 21 2 42 07 26
CSB 0-15000 mg/l O ₂ (25 pc.), mercury free ** (25 pc.) (150 pc.) ** without chloride removal	2 42 07 12 2 42 07 22 2 42 07 27
Ammonia VARIO HR tube test	53 56 50
Nitrate VARIO tube test	53 55 80
Nitrite LR VARIO powder pack	53 09 80
Nitrogen VARIO Total HR tube test	53 55 60
Phosphate VARIO Total HR tube test	53 52 10

Accessories

Set of round vials with lids Height 48 mm, Ø 24 mm	19 76 29
Membrane filter set for use when preparing samples, 25 membrane filters 0.45 µm, 2 syringes 20 ml	36 61 50
Vial stand for 6 round vials Ø 24 mm, acrylic glass	41 89 51
Vial stand for 10 vials (Ø 16 mm or □ 13,5 mm), acrylic glass	41 89 57
Automatic pipette*, 1 - 5 ml	41 90 76
Pipette tips*, 1 - 5 ml (white), 100 pc.	41 90 66
Automatic pipette**, 0.1 - 1 ml	41 90 77
Pipette tips**, 0,1 - 1 ml (white), 1000 pc.	41 90 73

* 0 - 150 mg/l and 0 - 1500mg/l ; ** 0 - 15000 mg/l