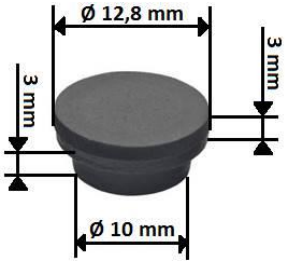
Anaerobic Cultivation and Handling

Hungate Anaerobic Culture Tubes with Screw Thread



- Tubes from Borosilicate glass for anaerobic culture conditions
- The technique developed by Hungate et al. is ideal for cultivation of anaerobic microorganism with sample harvesting and feeding by piercing the butyl rubber stopper with a needle
- Hungate tubes complete consist of following items:
  a) Screw cap with a 9 mm opening
  b) Flange style stopper made from grey butyl rubber, 5.4 mm height
  c) 16 x 125 mm screw thread style tube designed to maintain anaerobic conditions

Lit.: "Use of Syringe Methods for anaerobics"; J.M. Macy, J.E. Snellen and R.E. Hungate. J. Clin. Nutrition, Dec. 1972.

Cat. No.	Description	Dimensions	Cs.
CLS-4208-01	Hungate Tubes complete, incl. butyl rubber stoppers and screw caps	16 x 125 mm	100
Replacement components			
CLS-4208-10	Hungate glass tubes	16 x 125 mm	100
CLS-4208-11	Open top screw caps	Opening: 9 mm	100
CLS-4208-12	Butyl rubber stoppers	Height: 5,4 mm	100

Balch Anaerobic Culture Tubes with Aluminum Seal

- Tubes from Borosilicate glass for anaerobic culture conditions
- Especially suited for gas producing bacteria, for over-pressure between 2 - 3 bar
- Culture tubes complete consist of the following autoclavable parts:
  a) 20 mm aluminum crimp seal with 9 mm opening, for safe and gas-tight closing
  b) Gas-tight flange style stopper made from blue butyl rubber, 14 mm height
  c) 18 x 150 mm crimp style tube designed to maintain anaerobic conditions
- Crimper and Decapper for aluminum seals (please see overleaf)

Cat. No.	Description	Dimensions	Cs.
CLS-4209-01	Anaerobic tubes complete, incl. butyl stoppers and aluminum seals	18 x 150 mm	100
Replacement components			
CLS-4209-10	Glass tubes	18 x 150 mm	100
CLS-4209-12	Aluminum seals with 9 mm opening	Ø: 20 mm	100
CLS-4209-14	Butyl rubber stoppers	Höhe: 14 mm	100

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Anaerobic Bottles with Aluminium Seals

- Bottles for anaerobic culture conditions (without rubber stopper and seal)
- Gas tight blue butyl rubber stoppers as for Balch tubes (CLS-4209-01)
- Manufactured from Borosilicate glass

Cat. No.	Description	Cs.
CLS-4215-03	Anaerobic culture bottle, 500 ml, single neck	1
CLS-4215-05	Anaerobic culture bottle, 1000 ml, single neck	1
CLS-4215-01	Anaerobic culture bottle, 2000 ml, two necks	1
Replacement components		
CLS-4209-12	Aluminum seals, 20 mm diameter, with 9 mm opening	100
CLS-4209-14	Butyl rubber stoppers, 20 mm diameter, 14 mm height	100

Anaerobic Bottles with Aluminium Seals

- Bottles for anaerobic media storage (with rubber stopper and seal)
- Gas tight blue butyl rubber stoppers as for Balch tubes (CLS-4209-01)
- Manufactured from Duran® Schott Borosilicate glass, with graduation and marking area

Cat. No.	Description	Cs.
CLS-4217-01	Anaerobic media bottle, 50 ml	1
CLS-4217-02	Anaerobic media bottle, 100 ml	1
CLS-4217-03	Anaerobic media bottle, 250 ml	1
CLS-4217-04	Anaerobic media bottle, 500 ml	1
CLS-4217-05	Anaerobic media bottle, 1000 ml	1
Replacement components		
CLS-4209-12	Aluminum seals, 20 mm diameter, with 9 mm opening	100
CLS-4209-14	Butyl rubber stoppers, 20 mm diameter, 14 mm height	100

Anaerobic Stopper for GL45 Flasks

- Anaerobic stopper optimized to fit GL45 bottles
- High purity bromobutyl rubber with low permeability to air, gases and moisture
- Upper surface features seven numbered impressions for repeated needle piercing
- Temperature range: - 50 to + 121 °C

Cat. No.	Description	Cs.
CLS-4209-B45	Anaerobic Stopper, 45 mm	10

Crimper and Decapper for Anaerobic Culture Tubes and Bottles

- Hand operated
- For 20 mm aluminum seals (CLS-4209-12)

Cat. No.	Description	Cs.
CG-4930-20	Crimper for 20 mm aluminum seals	1
CG-4930-21	Decapper (Pliers-Type)	1
CV-5706-0020	Decapper for 20 mm aluminum seals (Crimp-Type)	1

Polycarbonate Erlenmeyer Flasks with patented vented DuoCap®

One Flask - Two Applications

Flask from polycarbonate with screw thread

- Optically clear, leak- and shatterproof
- Including vented DuoCap®
- With or without baffles
- With molded graduations
- Compatible with standard shaker clamps
- Sterile (Gamma Irradiation)
- Pyrogen, DNase and RNase free
- Temperature range: -125 °C to +125 °C
- Autoclavable (≤ 10 Cycles)

Vented DuoCap®

- For aerobic and anaerobic applications
- Easily convertible to a solid top cap
- Polypropylene cap with 0.22 µm PTFE membrane
- Thread: 38-430 or 53-B
- Autoclavable

Application:

1. Add culture media and inoculum

2. Add DuoCap for anaerobic culture

3. Remove dust guard cover for aerobic culture

4. Move into shaker incubator

Cat. No.	Description		Cs.
Plain/without baffles			
CLS-2092-125S	125 ml, 38-430 Thread, with DuoCap®, sterile	***Bulk packs available on request***	24
CLS-2092-250S	250 ml, 38-430 Thread, with DuoCap®, sterile		12
CLS-2092-500S	500 ml, 38-430 Thread, with DuoCap®, sterile		12
CLS-2092-100S	1000 ml, 53-B Thread, with DuoCap®, sterile		6
CLS-2092-200S	2000 ml, 53-B Thread, with DuoCap®, sterile		6
With four side baffles			
CLS-2093-125S	125 ml, 38-430 Thread, with DuoCap®, sterile	***Bulk packs available on request***	24
CLS-2093-250S	250 ml, 38-430 Thread, with DuoCap®, sterile		12
CLS-2093-500S	500 ml, 38-430 Thread, with DuoCap®, sterile		12
CLS-2093-100S	1000 ml, 53-B Thread, with DuoCap®, sterile		6
CLS-2093-200S	2000 ml, 53-B Thread, with DuoCap®, sterile		6
Replacement caps			
CLS-2090-0053M	DuoCap®, 53-B Thread, with DuoCap®, sterile		48
CLS-2090-0038M	DuoCap®, 38-430 Thread, with DuoCap®, sterile		48

Also in our portfolio:

Fernbach flasks with vented DuoCap®, more flasks, tubes and vials from polycarbonate, standard-, tamper evident- and septum caps (also as septum DuoCap®) from polypropylene

Chambers for Anaerobic and Hypoxic Applications

- Integrated vacuum pump
- Fast “plug and play” installation
- Auto-commissioning cycle
- Auto-sleeve cycle
- Inner door lock

- Different models with patented, glove-free sample handling
- Stainless steel body construction with acrylic glass front
- Comfortable sleeve cuffs to permit manipulation of samples
- Separated incubator and working space improve efficiency and ease of use
- Incubator temperature range: ambient + 5 °C to 70 °C (+/- 1 °C at 37 °C)
- Condensate chiller for a condensation-free working space
- Easy to handle air lock for simple transfer of samples
- 1 interior electrical outlet

BACTRON: Chambers for Anaerobic Applications

- Automatic pressure control provides a mild overpressure
- Internal manometer for a quick, visual check of pressure level to ensure correct handling by user
- Palladium catalyst cartridge improves anaerobic efficiency

BACTROX: Chamber for Hypoxic Applications

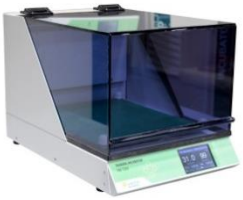
- Independent control of O_2 from 0.5 % to 20 %, and CO_2 from 1.0 % to 20 %, in 0.1 % increments

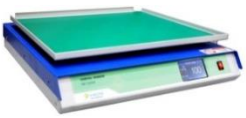
Shaking Incubators and Orbital Shakers

- Orbital movement (Ø 22 mm)
- Shaking speed 30 to 300 rpm (± 1 rpm)
- Timer: 1 minute to 48 hours or continuous operation

Shaking Incubators:

- Clear cover that opens upwards
- Temperature: ambient + 5 °C to 60 °C (± 0,25 °C at 37 °C)
- Automatic shaking stop when door is opened





Orbital Shakers:

- Unit with **separate remote controller** can be used in incubators with a humidity up to 85 %
- Operation temperature of 4 °C to 60 °C

Optional: User-friendly and intuitive LCD Touch Screen

- Touch screen for standard, temperature and shaking functions
- Programmable steps for temperature and rpm
- Easy calibration and setting of alarm
- No overshooting of set speed

01.01.2019