

Equipment & Consumables Required for Coronavirus Testing

(The CDC 2019-nCoV Real-Time RT-PCR Diagnostic Panel)



CDC Guidelines For Coronavirus Testing

The latest reports on the COVID-19 pandemic illustrates a fast spreading disease that has affected more than 300,000 people globally. In light of the situation, the Centers for Disease Control & Prevention ([CDC](https://www.cdc.gov)) has published a guideline for all labs across the United States that many European labs are also working in accordance with for the testing of Coronavirus using the CDC 2019-Novel Coronavirus (2019-nCoV) Real-Time RT-PCR Diagnostic Panel, an *in-vitro diagnostic test* designed for the qualitative detection of viral RNA in respiratory specimens collected from individuals who meet clinical and/or epidemiological criteria.

Within these guidelines, the CDC has established that they will provide the relevant labs with the necessary primers, probes and non-infectious positive control material, to serve as a comparative standard against samples obtained from patients suspected of being infected with the virus; as well as a list of commercially available alternatives.

The same guidelines also highlight the material, equipment and consumables that will be required by all labs to manage the virus testing but will not be provided by the CDC.

This document outlines the list of CDC recommended lab equipment and consumables that are available for purchase through Cole-Parmer. We have also included an additional list of relevant equipment and consumables that we can provide for virus testing laboratories.

The CDC guidelines along with the complete list of recommended equipment and consumables is available at www.cdc.gov and can be downloaded [here](#).

List of Relevant Equipment and Consumables

CDC Recommended Equipment and Consumables	Slide	Additional Equipment and Consumables Recommended by Cole-Parmer	Slide
Vortex Mixers	4	Cooling Heating Block	17
Microcentrifuge	5	Ambient Centrifuges (with rotor options)	18
Micropipettes (2 or 10 μ L, 200 μ L & 1000 μ L)	6	Data Logging Thermometers	19
Multichannel Micropipettes (5-50 μ l)	7	qPCR – ECO48 Real time PCR machine	20
Aerosol Barrier Pipette Tips	8	PCRMax Alpha Thermal Cyclers (1,2 & 4 Blocks)	25
1.5 mL Microcentrifuge Tubes	9	Techne Thermal Cyclers	27
Racks for 1.5 mL Microcentrifuge Tubes	10	PCR Accessories	28
2 x 96-well -20°C Cold Blocks	11	Safety Goggles	30
Molecular Grade Water (Nuclease-Free)	12		
DNAZap™ (Ambion, cat. #AM9890) or Equivalent	13		
RNAse Away™ (Fisher Scientific; cat. #21-236-21) or Equivalent	14		
Disposable Powder-Free Gloves	15		

Vortex Mixer Options



[Item # 04729-13](#)

Cole-Parmer®
Stuart®
Mini Vortex Mixer,
Variable Speed
2,500 – 4,500
100 to 240 VAC



[Item # 04729-03](#)

Cole-Parmer®
Stuart®
Vortex Mixer,
Variable Speed
200 – 2,500 rpm
90 to 240 VAC



[Item # 04729-01](#)

Cole-Parmer®
Stuart®
Vortex Mixer,
Fixed Speed
2,500 rpm
100 to 240 VAC



Microcentrifuge Options

[Item#17414-70](#)

Cole-Parmer®
Stuart®
8500 Microcentrifuge

Fixed speed: 8,500rpm
Tube capacity:
8 (0.5-2.0ml)
4 x 8 strip (0.2mL)
Compact & Quiet



[Item#85230-00](#)

Cole-Parmer®
Stuart®
SCF3 Microcentrifuge

Variable speed:
0 - 15,000rpm
Tube Capacity:
12 (0.2-2.0mL)
2 x 8 strip (0.2mL)*
Compact & Quiet
BioCote® antimicrobial
protection



*Strip-tube sold separately



Micropipette Options (2 or 10 μL , 200 μL , 1000 μL)

Dual volume setting system & rotating upper part of the pushbutton

Comfortable finger hook

Contoured handle shape

Convenient volume setting & locking

User-friendly calibration

Easy disassembling & adjustment of the tip ejector

Universal shafts



Cole-Parmer®
HTL

 Item # 4042

*Discovery Comfort
Single Channel
Pipette (DV10)*

Manual
Adjustable-Volume
Pipette
0.5 μL to 10 μL



Cole-Parmer®
HTL

 Item # 4046

*Discovery Comfort
Single Channel
Pipette (DV1000)*

Manual
Adjustable-Volume
Pipette
100 μL to 1mL



Website link



Available off-line



Multi-Channel Micropipette Options (5-50 μ l)



- Dual volume setting system
- Volume lock
- Easy calibration
- 360° rotating manifold
- Curved ejector bar
- Durable sealing system effective for 60 k cycles
- Fully autoclavable, UV resistant



QUALITY

- Large pipetting pushbutton – rotating upper part
- Comfortable finger hook
- Contoured handle
- Soft spring system

ERGONOMICS



Website link



Available off-line



Cole-Parmer®
HTL

 Item # 5122

*Discovery Comfort
8-Channel Pipette
(DV 8-50)*
8-Channel
Mechanical
Adjustable-Volume
Pipette
0.5 to 50 μ L

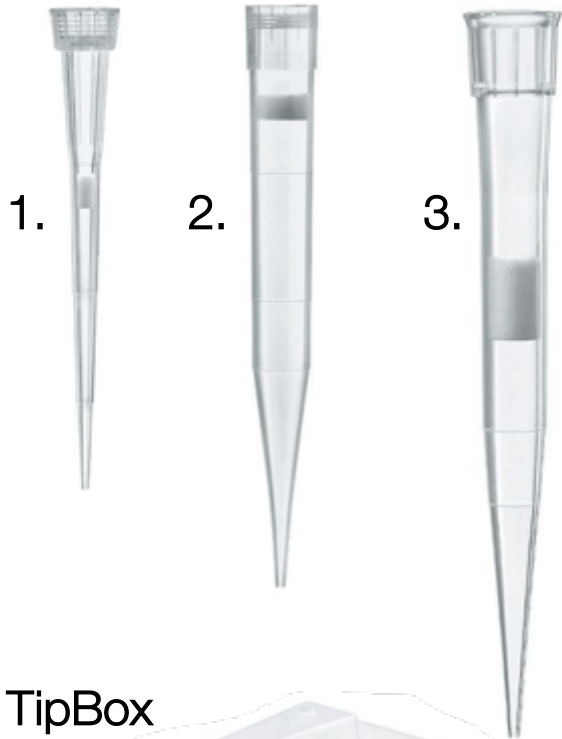


Cole-Parmer®
HTL

 Item # 5126

*Discovery Comfort
12-Channel
Pipette (DV 12-50)*
12-Channel
Mechanical
Adjustable-Volume
Pipette
0.5 to 50 μ L


Aerosol Barrier Pipette Tips




TipBox




1. Filter tips, racked, DNA-, RNase-free TipBox
N 0.5 - 10 μ l

 [Item #732724 / 24554-86](#)
BIO-CERT VE=960

2. Filter tips, racked, DNA-, RNase-free TipBox
N 5 - 100 μ l

 [Item #732730 / 24554-89](#)
BIO-CERT VE=960

3. Filter tips, racked, DNA-, RNase-free TipBox
50 - 1000 μ l

 [Item #732734 / 24554-91](#)
BIO-CERT VE=960

1.5 mL microcentrifuge tubes (DNase/RNase free)

 [Item #24409-56](#)



Cole-Parmer®
Argos Technologies®
BackSpring® Microcentrifuge Tube with
Integrated Cap

- 1.5 mL
- RNase, DNase, and pyrogen free
- Boil-proof and withstands freezing up to -90°C
- Easy-to-read graduations with frosted writing surface
- Can be spun up to 30,000 g
- Easy puncture top



Microcentrifuge Tube Rack Options



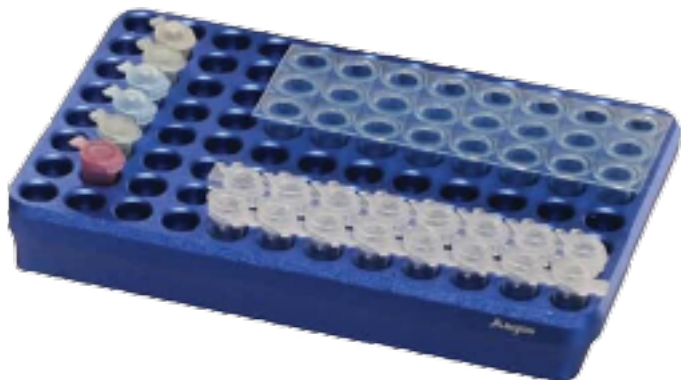
[Item # 06703-40](#)

Cole-Parmer®
Dynalon
Test Tube Racks

- Autoclavable Propylene
- Holds 0.5 mL - 1.5mL tubes



96-Well Cooling Block Options



[Item # 63615-04](#)

Cole-Parmer®
Argos Technologies®
PolarSafe®
Aluminum Cooling Block

96-Well for 0.2 mL Tubes



[Item # 44175-30](#)

Cole-Parmer®
Aluminum Cooling Block

96-Well for 0.2 mL Tubes



Molecular Grade Water (Nuclease-Free)



Cole-Parmer[®]
scientific experts

 Item # 10245203

Cole-Parmer[®]

Water (Sterile / Molecular Grade)

DNase & RNase free

DEPC Treated

Autoclaved

1L Bottle



DNAZap™ (Ambion, cat. #AM9890) or Equivalent



[Item # 25715-04](#)

Cole-Parmer®
DNA Surface Decontaminant

Fast and effective way of removing RNase and DNA contamination.

250 ml bottle



RNase Away™ (Fisher Scientific; cat. #21-236-21) or Equivalent



[Item # 25715-00](#)

Cole-Parmer®
RNase Surface Decontaminant

Safe, fast, and proven option
for removing nuclease and DNA
contamination from benchtops,
instruments and labware.

250 ml bottle



Disposable powder-free gloves and surgical gowns



[Item # 25000-13](#)

[Item # 25000-15](#)

[Item # 25000-17](#)

[Item # 25000-19](#)

Cole-Parmer®
ThinTouch™
Nitrile Gloves

Powder-free disposable gloves;
soft feel with textured fingertips
for ambidextrous use.
8 Options / Sizes



Additional Equipment & Consumables
Recommended by



Cooling / Heating Block



[Item # 36620-17](#)

Cole-Parmer®
Techne BLoCKICE
Cooling/Heating Block

- LED temperature display in °C or °F
- Usable with interchangeable aluminum block inserts

Temp: 0 to 40°C

Power: 100 to 230 VAC (50/60 Hz)



PrO-Analytical Prime-Multi Rotor Centrifuge Range

-Small Centrifuge 1L

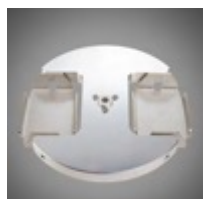
Small Centrifuge (1 Litre max)



 Item# C4000

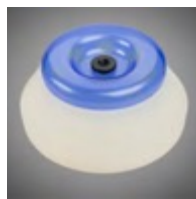
Cole-Parmer®
Ambient Centrifuge

Speed: 15,000 rpm
Rcf Max: 10-24,000G
Memory: 99 Programs
Power: 275 W /230 VAC (50/60 Hz)



Microtiter Plate
Rotor

[BRK5540](#)



Medium Fixed
Angle Rotors
to 3,800 G

[BRK5324](#)
[BRK5308](#)
[BRK5100](#)



Swing out
Rotor to
2,600 G

[BRK1001](#)



Buckets for
(Swing out
Rotor)

[B5251](#)



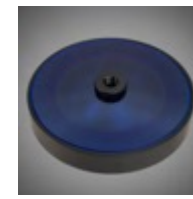
Small Swing
Out Rotor
2600 G

[BRK5508L](#)



High Speed
Fixed Angle
Rotors to
9,500 G

[BRK5212](#)
[BRK5206](#)



Haematocrit &
Micro Rotor to
15,800 G

[BRK5401](#)



Micro Rotors High
Capacity to
24,000 G

[BRK5248](#)
[BRK5249](#)
[BRK5298](#)



Website link



Available off-line

Storage

Traceable® USB Data Logging Thermometers



Traceable Excursion-Trac™ Data Logging Thermometer with Calibration; 1 Bottle Probe

[!\[\]\(cbe80b694ebd74fcfe136a095b608235_img.jpg\) Item # 94460-07](#)

Range: -50.00° to 70.00°C (-58.00 to 158.00°F)

Accuracy: $\pm 0.25^{\circ}\text{C}$



Traceable Excursion-Trac™ Datalogging Low-Temp Thermometer with Calibration; 1 Stainless Steel Probe

[!\[\]\(5361750c22c4e047a52f4eac1ec2d4cc_img.jpg\) Item # 98768-53](#)

Range: -50.00° to 60.00°C (-58.00 to 140.00°F)

Accuracy: $\pm 0.25^{\circ}\text{C}$



Storage

Traceable® Data Logging Thermometers compatible with TraceableLIVE Cloud Service



[Item # 99460-01](#)

Traceable Ethernet Refrigerator/Freezer Data Logging

Range: -50.00 to 60.00°C
Accuracy: $\pm 0.1^\circ\text{C}$
Calibrated to NIST & ILAC-MRA standards.



[Item # 99460-00](#)

Traceable Wi-Fi Refrigerator/Freezer Data Logging

Range: -50.00° to 60.00°C
Accuracy: $\pm 0.25^\circ\text{C}$
Calibrated to NIST & ILAC-MRA standards.



[Item # 18004-37](#)

Traceable Ethernet Ultra-Low Data Logging

Range: -90.00 to 105.00°C
Accuracy: $\pm 0.1^\circ\text{C}$
Calibrated to NIST & ILAC-MRA standards.



[Item # 18000-27](#)

Traceable Wi-Fi Ultra-Low Data Logging

Range: -50.00° to 60.00°C Accuracy: $\pm 0.25^\circ\text{C}$
Calibrated to NIST & ILAC-MRA standards.



Storage

Traceable® Data Logging Thermometers compatible with TraceableLIVE Cloud Service



Traceable Ultra™ Refrigerator/Freezer Thermometer with Calibration; 1 Vaccine Bottle Probe

[!\[\]\(e2376d476d06eb31946dc01a69a4403a_img.jpg\) Item #98767-59](#)

Range: -50.0° to 70.0°C
Accuracy: $\pm 0.5^{\circ}\text{C}$ (-30 to 50°C);
otherwise $\pm 1^{\circ}\text{C}$
Calibrated to NIST & ILAC-MRA
standards



Traceable Jumbo Refrigerator/Freezer Thermometer with Calibration, 1 specific Vaccine Bottle Probe

[!\[\]\(0b5e7e25e8775f7e7e80906ada4f0021_img.jpg\) Item # 94460-73](#)

Range -40.0C to 50.0 °C
Accuracy: $\pm 0.5^{\circ}\text{C}$ (-30 to 50°C);
otherwise $\pm 1^{\circ}\text{C}$
Calibrated to NIST & ILAC-MRA
standards



Traceable Ultra™ Refrigerator/Freezer Thermometer with Calibration; 1 Vaccine Bottle Probe

[!\[\]\(bd3b31712ad9bab5a241210fa6925cdd_img.jpg\) Item #98767-63](#)

Range: -50.0° to 70.0°C
Accuracy: $\pm 0.25^{\circ}\text{C}$
Calibrated to NIST & ILAC-MRA
standards



Shipping

Traceable® Data Logging Thermometers compatible with TraceableLIVE Cloud Service Bluetooth



Traceable Temperature Bluetooth® Enabled Data Logger Compatible with TraceableGO™ App and TraceableLIVE® Cloud Service; Bottle Probe

[!\[\]\(d3fb9f94af8b26d1c844efa9a98805b0_img.jpg\) Item #18004-29](#)

Range: -50.00° to 70.00°C

Accuracy: ±0.3°C

Calibrated to NIST & ILAC-MRA standards



Traceable Temperature Bluetooth® Enabled Data Logger Compatible with TraceableGO™ App and TraceableLIVE® Cloud Service; RTD Probe

[!\[\]\(d5d7044e5caf6907399af2dced8d6ff8_img.jpg\) Item #18004-30](#)

Range: -90.00° to 100.00°C

Accuracy: ±0.2°C

Calibrated to NIST & ILAC-MRA standards



Shipping

Traceable® Transportation Data Logging Thermometers



**Traceable ONE™ Single-Use USB Temperature Data Logger,
10 Day, 1 Minute Interval, 2 to 8°C; 40/pk**

[Item #18004-01](#)

Alarm Range: 2.00° to 8.00°C

Accuracy: ±0.5°C

Single use

Calibrated to NIST & ILAC-MRA standards.

24 product variations available



qPCR – ECO48 Real time PCR



 [Item #93947-00](#)

Cole-Parmer® PCRmax Eco 48 Real-Time

- Fastest block-based real-time PCR system in the market (40 cycles in 20 minutes).
- The Eco 48 can utilise four colours for easy multiplexing
- Integrated HRM functionality can discriminate 99.9% of class IV SNPs
- Temperature Uniformity $\pm 0.1^{\circ}\text{C}$ (at 95°C with no settle time).
- Compatible for use with any chemistry, dye or PCR reagent.
- Calibrated for SYBR®, FAM, HEX, VIC, ROX and Cy®5 fluorescent dyes.
- Intuitive and easy to use software
- High uniformity provides high quality data
- MIQE compliant.



PCRmax Alpha Cyclers (1 and 2-Blocks)

Choice of one, two, or four block capacities in 96-well, 384-well, or mixed formats. Independent control of each block with programmable software that allows quick access to commonly used protocols. These intuitive thermal cyclers are fitted with a clear responsive touch screen, secure user-specific programming, adjustable heated lid, and active sample cooling for sharper amplification.



Cole-Parmer®
PCRmax®
Alpha Cyclers 1 Thermal Cycler

[!\[\]\(c3d993ca47bfe2a953c700506ce31fa0_img.jpg\) Item #93945-02](#)
Single 96-Well Capacity

[!\[\]\(d66ff64371a51729ac8c1cdaa685ba6f_img.jpg\) Item #93945-00](#)
Single 384-Well Capacity

Cole-Parmer®
PCRmax®
Alpha Cyclers 1
Thermal Cycler

Temp Range :10 - 100° C
Accuracy 50°C: ±0.25°C
Heating rate 3.4°C / sec
Gradient1 - 29 °C
Heated Lid: 35 to 115°C
Memory 1000 programs
100 to 230 VAC (50/60 Hz)



Cole-Parmer®
PCRmax®
Alpha Cyclers 2 Thermal Cycler

[!\[\]\(cf531ed27e91483460120fcc057b3901_img.jpg\) Item # 93945-22](#)
Dual 96-Well Capacity

[!\[\]\(d3102649f02e825ddb76dc3de0190154_img.jpg\) Item # 93945-20](#)
Single 384-Well and Single
96-Well Capacity

Cole-Parmer®
PCRmax®
Alpha Cyclers 2
Thermal Cycler

Temp Range :10 - 100° C
Accuracy 50°C: ±0.25°C
Heating rate 3.4°C / sec
Gradient1 - 29 °C
Heated Lid: 35 to 115°C
Memory 1000 programs
100 to 230 VAC (50/60 Hz)

[!\[\]\(b4eeff342f60cc7bcd67d869b4fedca2_img.jpg\) Item # 93945-28](#)
Dual 384 Well Capacity



PCRmax Alpha Cyclers (4 Blocks)



Cole-Parmer®
PCRmax®
Alpha Cyclers 4 Thermal Cycler

[!\[\]\(99f58673407353e96a019fbca558fd72_img.jpg\) Item # 93945-12](#)

Quad 96-Well Capacity

[!\[\]\(339a16584d5da0f0a3ca4e9ec17bf6a1_img.jpg\) Item # 93945-10](#)

Single 384-Well and Triple 96-Well Capacity

[!\[\]\(de95854c7ee024cfadc48187bbb781b2_img.jpg\) Item # 93945-06](#)

Dual 384-Well and Dual 96-Well Capacity

[!\[\]\(6059a5aa8b4ca7bb793408023d6c6e42_img.jpg\) Item # 93945-04](#)

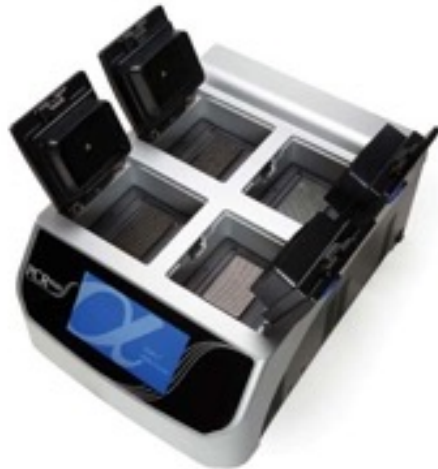
Triple 384-Well and Single 96-Well Capacity

[!\[\]\(6a9b39b98eb945faa14c645ec99e4eaa_img.jpg\) Item # 93945-08](#)

Quad 384-Well Capacity

Cole-Parmer®
PCRmax®
Alpha Cyclers 4 Thermal Cycler

Temp Range :10 - 100° C
Accuracy 50°C: ±0.25°C
Heating rate 3.4°C / sec
Gradient 1 - 29 °C
Heated Lid: 35 to 115°C
Memory: 1000 programs
Power:100 to 230 VAC (50/60 Hz)



Techne

Reliable and robust thermal cyclers, fitted with an intuitive program, a touch screen that allows for quick set up and easy programming and an adjustable heated lid that prevents condensation in your samples.



Cole-Parmer®
Techne
Thermal Cycler 96 x 0.2 mL

[!\[\]\(cbe80b694ebd74fcfe136a095b608235_img.jpg\) Item # 93945-13](#)

Temp Range : 4- 100° C
Accuracy 50°C: ±0.2°C
Heating rate 3.4°C / sec
Heated Lid: 100 to 115°C
Memory: 1000 programs
Power: 100 to 230
VAC(50/60Hz)

Cole-Parmer®
Techne
Gradient Thermal Cycler, 384 Wells

[!\[\]\(e474458956c9a37fbf9586ddb60a7fa1_img.jpg\) Item # 93945-23](#)

Temp Range : 4- 100°C
Accuracy 50°C: ±0.2°C
Heating rate 3.4°C / sec
Heated Lid: 100 to 115°C
Gradient Range: 1-16°C
Memory: 1000 programs
Power: 100 to 230 VAC(50/60Hz)



PCR Accessories



Cole-Parmer®
PCRmax®

 [Item #99965-52](#)

ECO 48 Real Time
PCR Plate 50/pk



Cole-Parmer®
PCRmax®

 [Item #93947-99](#)

Real-Time qPCR
Plate Seals; 50/
pk



Cole-Parmer®
PCRmax®

 [Item #PKIT13122](#)

RNA Coronavirus
COVID-19 without
mastermix



Cole-Parmer®
PCRmax®

 [Item #PKIT13122M](#)

RNA Coronavirus
COVID-19 with
mastermix



PCR Accessories



 Item #781332

Cole-Parmer®
Brand
PCR-Tube Strips

- 0.2 mL; 8pp attached; 120/Pk
- RNase free



Safety Goggles



[!\[\]\(5eb1325dfdc3f1cad8426726c0db51cd_img.jpg\) Item # 01662-14](#)

Encon 5058204
Spherical Goggles,

- Flexible frames
- Adjustable neoprene headbands
- Clear Antifogging Lens
- Air vents repel contaminants and ensure continuous airflow



[!\[\]\(5a132f13505a6571904d622757b7a8f0_img.jpg\) Item# 81657-00](#)

Allsafe 10115 Goggle,
Standard, Green Body/Clear Lens

- All-around venting
- Clear Lens
- ANSI Z87.1-1989; CSA Z94.3-93; SEI-certified



