

Droplet production and sorting in a single benchtop instrument

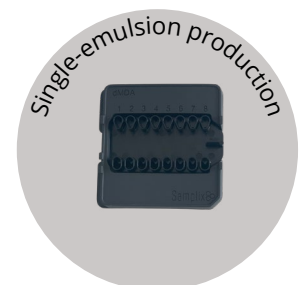
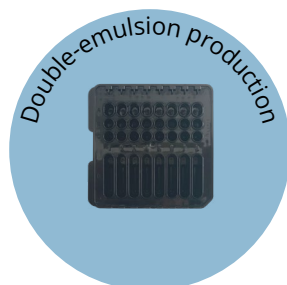


Gain deeper insights into your samples thanks to Xdrop Sort. This unique microfluidics instrument produces droplets both to encapsulate biological material **and** to sort droplets based on fluorescence signals. Workflows possible with this versatile instrument include:

- Encapsulating and sorting DNA fragments for highly targeted sequencing
- Encapsulating cells for unbiased whole genome amplification
- Encapsulating living microbial cells for enzyme activity assays and selecting the most active cells

User-friendly cartridge-based workflow

To encapsulate biological material, load an Xdrop DE20 or SE85 Cartridge with your sample, growth medium or buffer, and our oil, then select the production program on the intuitive instrument touchscreen. To sort, load the Xdrop DE20 Sort Cartridge and select the sorting program. All the liquids stay on the cartridge, reducing contamination risk, and you can run up to eight samples simultaneously.



Cartridge type	Xdrop DE20	Xdrop DE20 Sort	Xdrop SE85
Inner diameter of droplets	15 µm	15 µm	85 µm
Droplet volume	1.6 pl	1.6 pl	300 pl
Droplets per sample per run	8 million	8 million	65,000
Run time (up to 8 samples)	40 minutes	60 minutes	45 seconds

Versatile droplets

Biological material such as cells or DNA can be encapsulated in double- or single-emulsion droplets, for incubation, single-cell analysis, targeted sequencing, or other high-resolution analyses.

Double-emulsion droplets are robust oil shells containing and surrounded by growth medium or buffers, permeable to gases but not to large molecules.

DE20 droplets are compatible with:

- Flow cytometry analysis
- Sorting using cell sorters
- Incubation for several days
- Storage for months
- A range of buffers and culture media

Workflows based on DE20 droplets include:

- Screening of secreted proteins
- Enzyme activity analyses
- Incubation of microbial cells
- Targeted enrichment of DNA
- Validation of gene edits and viral integrations

Workflows based on SE85 droplets include:

- General amplification of small amounts of DNA
- Single-cell whole genome amplification

Samplix supplies all the necessary consumables for droplet production and sorting, including cartridges, gaskets, storage film, oil, and other reagents.

Visit samplix.com/products for more information.

How Xdrop Sort simplifies sorting

Xdrop Sort enables gentle, contamination-free, and convenient droplet sorting.

Simply load the droplets with labelled contents into an Xdrop DE20 Sort Cartridge, put it into the instrument, and press start. After that, the only action needed is to set the fluorescence threshold. There are **no external buffer containers or sample lines to be cleaned**.

Eight droplet samples can be sorted in parallel with individual thresholds settings. The number of sorted droplets is monitored throughout the run on all 8 lanes. After sorting, run data can be analyzed using the intuitive Xdrop viewer software.

Xdrop Sort or Xdrop?

Both of our versatile microfluidics instruments can encapsulate microbial cells, organelles, DNA fragments, proteins, and other molecules in double-emulsion or single-emulsion droplets.

Xdrop Sort uniquely enables DNA or microbial cell encapsulation **and** high-throughput sorting in DE20 droplets. This enables the screening of large, complex gene libraries with unprecedented speed as well as single-cell approaches to bulk assays.

Xdrop uniquely offers a cartridge and protocols for mammalian cell workflows that use DE50 droplets.

Contact us about Xdrop Sort at samplix.com/contact.

Xdrop Sort specifications

Width:	30.5 cm	12 inches
Height:	36.4 cm	14.3 inches
Length:	65.4 cm	25.7 inches
Weight:	23.5 kg	51.8 lbs

Degree of ingress protection (IEC 60529): IP20
Voltage requirements: 110–240 V
Max current: 650 mA at 230 VAC, 1.3A at 115 VAC

Xdrop Sort operating conditions

Temperature: 20–25°C
Relative humidity (RH): 0–75%.
Altitude: max. 2,000 m
Pollution degree: 2

Sorting specifications

Excitation: 488 nm
Emission: 520 nm

Sample: DE20 droplets
Sample volume: 5–200 µl