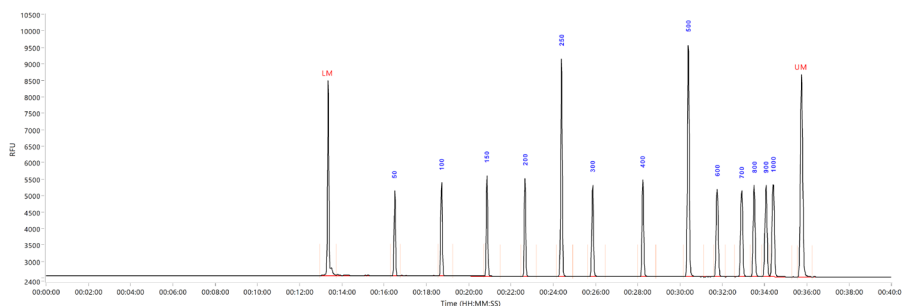


## Small Fragment Kits

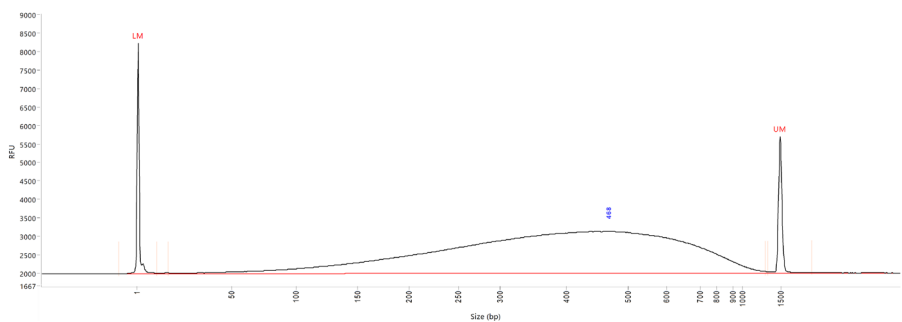
### Agilent Fragment Analyzer systems

Small DNA fragments and smears have traditionally proven challenging to quantify and size. The Small Fragment kits for the Agilent Fragment Analyzer systems will quickly and accurately size and quantify DNA fragments and smears under 1,500 bp.

The high-quality sizing and resolution of fragments and smears is due to the specially formulated gel and small ladder fragments provided with the Small Fragment kit (p/n DNF-476) and HS Small Fragment kit (p/n DNF-477). The Small Fragment DNA Ladder (p/n DNF-363-U100) and the HS Small Fragment DNA Ladder (p/n DNF-372-U100) each contain a lower marker (LM) and upper marker (UM), along with 12 small fragments, making the kits ideal for sizing small samples between 50 and 1,500 bp.



**Figure 1.** The HS Small Fragment Ladder separated on a Fragment Analyzer system using a short capillary array. The HS Small Fragment kit sizes DNA smears and fragments under 1,500 bp.



**Figure 2.** Sheared gDNA at a concentration of 100 ng/ $\mu$ L was analyzed on a Fragment Analyzer system with the Small Fragment kit using a short capillary array.

The Small Fragment kits provide precise and rapid quantification of DNA samples covering a dynamic range, from 5 pg/μL to 10 ng/μL for fragments, and 100 pg/μL to 100 ng/μL for smears. Especially useful for small DNA fragments and smears, such as small RNA NGS libraries, the Small Fragment kits are ideal for helping simplify your quality control workflows.

## Features and benefits

### Reliable sizing

Small ladder fragments and a specially formulated gel allows for accurate and precise sizing of fragments and smears under 1,500 bp.

### Simplified sample handling and minimal sample consumption

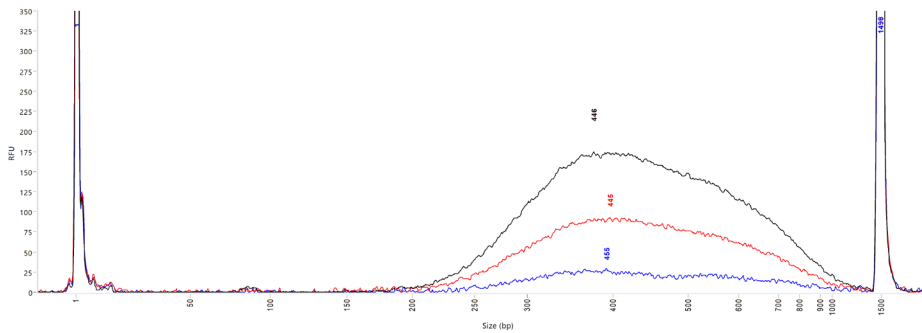
Requires only a single dilution into a 96-well plate or strip tubes.

### Broad concentration range

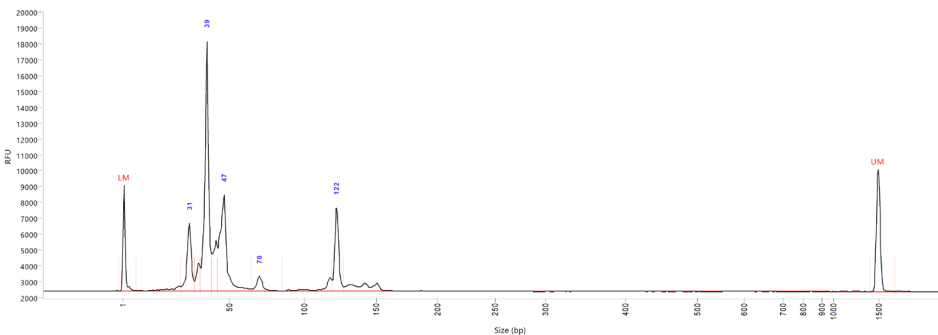
Detect smears from 100 pg/μL to 100 ng/μL and fragments from 5 pg/μL to 10 ng/μL.

### Short run times

Separate 12, 48, or 96 samples in approximately 45 minutes.



**Figure 3.** A dilution series of sheared gDNA was analyzed on a Fragment Analyzer system with the HS Small Fragment kit. The concentrations shown highlight the broad detection range of the kit, displaying samples at 100 pg/μL (blue trace), 250 pg/μL (red trace), and 500 pg/μL (black trace). The average smear size for each is printed above each dilution, illustrating high sizing reproducibility.



**Figure 4.** A small RNA NGS library analyzed using the HS Small Fragment kit on a Fragment Analyzer system with a short capillary array.

## Kit specifications

| Type                                      | Agilent Small Fragment kit <sup>2</sup><br>(p/n DNF-476-0500)  | Agilent HS Small Fragment kit <sup>2</sup><br>(p/n DNF-477-0500 and DNF-477-1000) |
|---|--|---|
| DNA sizing range                          | 50 - 1,500 bp  | 50 - 1,500 bp   |
| Sizing precision <sup>3,4</sup>           | 2% CV  | 2% CV   |
| Sizing accuracy <sup>3,4</sup>            | ± 5% or better   | ± 5% or better  |
| Separation resolution <sup>3</sup>        | Ultrashort array <sup>1</sup><br>Short array<br>50 - 700 bp ≤ 5%; 700 - 1,500 bp ≤ 10%<br>50 - 900 bp ≤ 5%; 900 - 1,500 bp ≤ 10% | 50 - 700 bp ≤ 5%; 700 - 1,500 bp ≤ 10%<br>50 - 900 bp ≤ 5%; 900 - 1,500 bp ≤ 10%  |
| Fragment concentration range <sup>4</sup> | 0.1 - 10 ng/μL input DNA   | 5 - 500 pg/μL input DNA   |
| Smear concentration range <sup>3</sup>    | 5 - 100 ng/μL input DNA  | 100 - 5,000 pg/μL input DNA   |
| Quantification accuracy <sup>3,4</sup>    | ± 25%  | ± 25%   |
| Quantification precision <sup>3,4</sup>   | 15% CV   | 15% CV  |
| Maximum DNA concentration                 | 10 ng/μL per fragment; 100 ng/μL total   | 500 pg/μL per fragment; 5,000 pg/μL total   |

<sup>1</sup>The FA 12-Capillary Array Ultrashort, 22 cm is only available for the 5200 Fragment Analyzer system.

<sup>2</sup>Not applicable to 55 cm long capillary arrays.

<sup>3</sup>Results using sheared gDNA with smear range from 10 - 1,400 bp in 1x TE buffer.

<sup>4</sup>Results using 400 bp DNA fragment standards and DNA ladder in 1x TE buffer.

[www.agilent.com/genomics/fragment-analyzer](http://www.agilent.com/genomics/fragment-analyzer)

**For Research Use Only. Not for use in diagnostic procedures.**

This information is subject to change without notice.