## **CANNON®** Glass Capillary Viscometers

Size, Range, & Expanded Uncertainty

ASTM D 446, ASTM D 2171, ISO 3104, ISO 3105



**CANNON Glass Capillary Viscometers** 

## **Glass Capillary Viscometers**

The tables on this page provide size and range information for viscometers on pages 26-30. Additional sizing information is available on the individual product pages for other viscometer types.

Why does CANNON offer so many different types of glass capillary viscometers? Primarily because no single capillary viscometer is ideally suited for all kinematic viscosity determinations. Individual analysts also have their own preferences. The brief descriptions on the following page may assist you in determining which viscometer is most appropriate for your particular application. Feel free to contact CANNON with your questions. Our experienced staff will be happy to assist you.

## **Expanded Uncertainty**

CANNON Instrument Company provides expanded uncertainty data with all of our calibrated viscometers. This is the universally accepted statistic when dealing with calibration data. In order to maintain A2LA accreditation, we are required to determine and specify the expanded uncertainty for all our calibration data.

ISO publications define expanded uncertainty as "quantity defining the interval about the result of a measurement within which the values that could reasonably be attributed to the measurement may be expected to lie with a high level of confidence."

Expanded uncertainty is a more comprehensive and meaningful term than "precision" because it incorporates all variables in the measurement process. When comparing the accuracy of viscometers it is essential that the expanded uncertainty be specified. Detailed information regarding CANNON measurements and expanded uncertainty is available for download from the CANNON website, www.cannoninstrument.com.

CANNON Instrument Company also provides uncertainty data with every bottle of our certified viscosity standards (see pages 42-49).

## Specifications for **CANNON®** Viscometers

Table 1 Cannon-Fenske. Cannon-Ubbelohde, and **Cannon-Ubbelohde Dilution Viscometers** 

1.000000			
Size	Approx. constant, cSt/s	Range centistokes*	
25	0.002	0.5 to 2	
50	0.004	0.8 to 4	
75	0.008	1.6 to 8	
100	0.015	3 to 15	
150	0.035	7 to 35	
200	0.1	20 to 100	
300	0.25	50 to 250	
350	0.5	100 to 500	
400	1.2	240 to 1200	
450	2.5	500 to 2500	
500	8	1600 to 8000	
600	20	4000 to 20 000	
650	45	9000 to 45 000	
700	100	20 000 to 100 000	

Ranges in centistokes represent flow times of 250 to 1000 seconds for Size 25, and 200 to 1000 for all other sizes.

Table 2 **Ubbelohde Viscometers** 

Size	Approx. constant, cSt/s	Range centistokes*
0	0.001	0.3 to 1
0C	0.003	0.6 to 3
OB	0.005	1 to 5
1	0.01	2 to 10
1C	0.03	6 to 30
1B	0.05	10 to 50
2	0.1	20 to 100
2C	0.3	60 to 300
2B	0.5	100 to 500
3	1.0	200 to 1000
3C	3.0	600 to 3000
3B	5.0	1000 to 5000
4	10	2000 to 10 000
4C	30	6000 to 30 000
4B	50	10 000 to 50 000
5	100	20 000 to 100 000

Ranges in centistokes represent flow times of 300 to 1000 seconds for Size 0, and 200 to 1000 seconds for all other sizes.