

# Kinematic Viscosity Tubes

## Viscometer Identification



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**Cannon-  
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## Zeitfuchs Cross-Arm Viscometers

Zeitfuchs Cross-Arm viscometers are for measuring the kinematic viscosity of Newtonian liquids in the range from 0.3 to 100,000 centistokes (see [ASTM D-445](#) and [ISO 3104](#)). Zeitfuchs Cross-Arm viscometers are equally well suited for the study of transparent or opaque liquids and can be filled or cleaned without removal from constant temperature baths.

Zeitfuchs Cross-Arm viscometers require a minimum sample volume of 15 mL and a liquid bath depth of 292 mm (11.5 inches).

All Zeitfuchs Cross-Arm viscometers conform to [ASTM 446](#) and [ISO 3105](#) specifications.

## Ordering Information

Size	Range (cSt)	Viscometer (Assembly)	Viscometer (Glassware)
1	0.6 - 3	J1229-500-01	J1449-500-01
2	2 - 10	J1229-500-02	J1449-500-02
3	6 - 30	J1229-500-03	J1449-500-03
4	20-100	J1229-500-04	J1449-500-04
5	60-300	J1229-500-05	J1449-500-05
6	200-1000	J1229-500-06	J1449-500-06
7	600-3000	J1229-500-07	J1449-500-07
8	2000-10000	J1229-500-08	J1449-500-08
9	6000-30000	J1229-500-09	J1449-500-09
10	20000-100000	J1229-500-10	J1449-500-10

All viscometer assemblies include glassware, removable optical assembly for use with UIC viscosity timers, holder and instruction manual.

All glassware sold separately for use with UIC viscosity timers must be recalibrated following installation.

# Kinematic/Dynamic Viscosity

## Cannon-Fenske Routine Viscometers

Cannon-Fenske Routine viscometers are for measuring the kinematic viscosity of transparent Newtonian liquids. Cannon-Fenske Routine viscometers are particularly well suited for the study of light colored petroleum products and lubricants in accordance with [ASTM D-445](#) and [ISO 3104](#). For darker liquids the use of Cannon-Fenske Opaque viscometers is recommended.

Cannon-Fenske Routine viscometers require a minimum sample volume of 7 mL and a liquid bath depth of 203 mm (9 inches).

All Cannon-Fenske Routine viscometers conform to [ASTM 446](#) and [ISO 3105](#) specifications.

### Ordering Information

Size	Range (cSt)	Viscometer (Assembly)	Viscometer (Glassware)
25	0.5 - 2	J1229-710-01	J1449-710-01
50	0.8 - 4	J1229-710-02	J1449-710-02
75	1.6 - 8	J1229-710-03	J1449-710-03
100	3-15	J1229-710-04	J1449-710-04
150	7-35	J1229-710-05	J1449-710-05
200	20-100	J1229-710-06	J1449-710-06
300	50-250	J1229-710-07	J1449-710-07
350	100-500	J1229-710-08	J1449-710-08
400	240-1200	J1229-710-09	J1449-710-09
450	500-2500	J1229-710-10	J1449-710-10
500	1600-8000	J1229-710-11	J1449-710-11
600	4000-20000	J1229-710-12	J1449-710-12
650	9000-45000	J1229-710-13	J1449-710-13
700	20000-100000	J1229-710-14	J1449-710-14

## Cannon-Fenske Opaque Viscometers

### Ordering Information

Size	Range (cSt)	Viscometer (Assembly)	Viscometer (Glassware)
25	0.5 - 2	J1229-700-20	J1449-700-20
50	0.8 - 4	J1229-700-21	J1449-700-21
75	1.6 - 8	J1229-700-22	J1449-700-22
100	3-15	J1229-700-23	J1449-700-23
150	7-35	J1229-700-24	J1449-700-24
200	20-100	J1229-700-25	J1449-700-25
300	50-250	J1229-700-26	J1449-700-26
350	100-500	J1229-700-27	J1449-700-27
400	240-1200	J1229-700-28	J1449-700-28
450	500-2500	J1229-700-29	J1449-700-29
500	1600-8000	J1229-700-30	J1449-700-30
600	4000-20000	J1229-700-31	J1449-700-31
650	9000-45000	J1229-700-32	J1449-700-32
700	20000-100000	J1229-700-33	J1449-700-33

Cannon-Fenske Opaque (reverse flow type) viscometers are for liquids so dark in color that the meniscus cannot be seen in Cannon-Fenske Routine viscometers. Cannon-Fenske Opaque viscometers are used to study liquid asphalts and road oils at 60°C (140°F) in the range from 30 to 6000 centistokes (see [ASTM D-2170](#)) and for studying the effects of various additives to lubricating oils and hydraulic fluids at low temperature. External pressure can be applied to these viscometers to vary shear stress and shear rate.

Cannon-Fenske Opaque viscometers require a minimum sample volume of 12 mL and a liquid bath depth of 229 mm (9 inches).

All Cannon-Fenske Opaque viscometers conform to [ASTM 446](#) and [ISO 3105](#) specifications.

All viscometer assemblies include glassware, removable optical assembly for use with UIC viscosity timers, holder and instruction manual.

All glassware sold separately for use with UIC viscosity timers must be recalibrated following installation.

## Ubbelohde Viscometers

Ubbelohde viscometers are a less rugged version of the Cannon-Ubbelohde "suspended level" design in which the lower meniscus is "suspended" immediately below the working capillary to ensure a uniform driving head of liquid that is independent of sample volume. With a viscometer constant that is independent of temperature and typically requires no kinetic energy corrections over the range from 0.5 to 100,000 centistokes, the Ubbelohde design is particularly well suited for use at temperatures above 93°C (200°F) or below -18°C (0°F).

Ubbelohde viscometers require a minimum sample volume of 11 mL and a liquid bath depth of 241 mm (9.5 inches).

All Ubbelohde viscometers conform to [ASTM 446](#) and [ISO 3105](#) specifications.

### Ordering Information

Size	Range (cSt)	Viscometer (Assembly)	Viscometer (Glassware)
0	0.3 - 1	J1229-050-20	J1449-050-20
0C	0.6 - 3	J1229-050-21	J1449-050-21
0B	1-5	J1229-050-22	J1449-050-22
1	2-10	J1229-050-23	J1449-050-23
1C	6-30	J1229-050-24	J1449-050-24
1B	10-50	J1229-050-25	J1449-050-25
2	20- 100	J1229-050-26	J1449-050-26
2C	60-300	J1229-050-27	J1449-050-27
2B	100-500	J1229-050-28	J1449-050-28
3	200-1000	J1229-050-29	J1449-050-29
3C	600-3000	J1229-050-30	J1449-050-30
3B	1000-5000	J1229-050-31	J1449-050-31
4	2000-10000	J1229-050-32	J1449-050-32
4C	6000-30000	J1229-050-33	J1449-050-33
4B	10000-50000	J1229-050-34	J1449-050-34
5	20000-100000	J1229-050-35	J1449-050-35

All viscometer assemblies include glassware, removable optical assembly for use with UIC viscosity timers, holder and instruction manual.

All glassware sold separately for use with UIC viscosity timers must be recalibrated following installation.

## Why Consider A UIC Viscosity System?

**P Save Time**

**P Increase Accuracy**

**P Upgrade Your Manual System**

**P Compliment Your Fully Automatic System**

**P Increase Productivity**

# Kinematic/Dynamic Viscosity

## Cannon-Ubbelohde Semi-Micro Viscometers

Cannon-Ubbelohde viscometers are a rugged version of the widely used Ubbelohde "suspended level" design in which the lower meniscus is "suspended" immediately below the working capillary to ensure a uniform driving head of liquid that is independent of sample volume. With a viscometer constant that is independent of temperature and typically requires no kinetic energy corrections over the range from 0.5 to 100,000 centistokes, the improved Cannon-Ubbelohde design is particularly well suited for use at temperatures above 93°C (200°F) or below -18°C (0°F).

Cannon-Ubbelohde Semi-Micro viscometers require a minimum sample volume of 1.0 mL (sizes 400 - 600 may require more) and a liquid bath depth of 240 mm (9.5 inches). Initial samples can be diluted to as much as 20 mL for intrinsic viscosity determinations.

All Cannon-Ubbelohde Semi-Micro viscometers conform to **ASTM 446** and **ISO 3105** specifications.

### Ordering Information

Size	Range (cSt)	Viscometer (Assembly)	Viscometer (Glassware)
25	0.5 - 2	J1229-100-01	J1449-100-01
50	0.8 - 4	J1229-100-02	J1449-100-02
75	1.6 - 8	J1229-100-03	J1449-100-03
100	3-15	J1229-100-04	J1449-100-04
150	7-35	J1229-100-05	J1449-100-05
200	20-100	J1229-100-06	J1449-100-06
300	50-250	J1229-100-07	J1449-100-07
350	100-500	J1229-100-08	J1449-100-08
400	240-1200	J1229-100-09	J1449-100-09
450	500-2500	J1229-100-10	J1449-100-10
500	1600-8000	J1229-100-11	J1449-100-11
600	4000-20000	J1229-100-12	J1449-100-12

## Cannon-Ubbelohde Dilution Viscometers

### Ordering Information

Size	Range (cSt)	Viscometer (Assembly)	Viscometer (Glassware)
25	0.5 - 2	J1229-300-01	J1449-300-01
50	0.8 - 4	J1229-300-02	J1449-300-02
75	1.6 - 8	J1229-300-03	J1449-300-03
100	3-15	J1229-300-04	J1449-300-04
150	7-35	J1229-300-05	J1449-300-05
200	20-100	J1229-300-06	J1449-300-06
300	50-250	J1229-300-07	J1449-300-07
350	100-500	J1229-300-08	J1449-300-08
400	240-1200	J1229-300-09	J1449-300-09
450	500-2500	J1229-300-10	J1449-300-10
500	1600-8000	J1229-300-11	J1449-300-11
600	4000-20000	J1229-300-12	J1449-300-12

Cannon-Ubbelohde viscometers are a rugged version of the widely used Ubbelohde "suspended level" design in which the lower meniscus is "suspended" immediately below the working capillary to ensure a uniform driving head of liquid that is independent of sample volume. With a viscometer constant that is independent of temperature and typically requires no kinetic energy corrections over the range from 0.5 to 100,000 centistokes, the improved Cannon-Ubbelohde design is particularly well suited for use at temperatures above 93°C (200°F) or below -18°C (0°F).

Cannon-Ubbelohde Dilution viscometers require a minimum sample volume of 8.0 mL and a liquid bath depth of 280 mm (11 inches). Initial samples can be diluted to as much as 40 mL for intrinsic viscosity determinations.

All Cannon-Ubbelohde Dilution viscometers conform to **ASTM 446** and **ISO 3105** specifications.

All viscometer assemblies include glassware, removable optical assembly for use with UIC viscosity timers, holder and instruction manual.

All glassware sold separately for use with UIC viscosity timers must be recalibrated following installation.