



miniQV[®]-X Addendum

Foreword:

Thank you for purchasing the miniQV-X viscometer - part of the popular CANNON miniAV family. This ADDENDUM to the current miniAV-X Instruction & Operational Manual is intended to provide the operator with information on the few operational differences between the miniAV-X and the miniQV-X.

Refer to the following sections in the miniQV-X manual for more detail:

- Section 1: Introduction
- Section 1: Specifications
- Section 2: Testing Samples
- Section 5: Viscometer Tubes
- Section 5: Replacement Components
- Section 14: Replacement Parts List

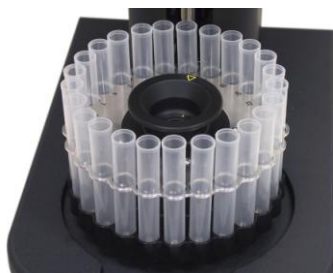
SECTION 1:

miniQV[®]-X Function:

The miniQV-X is a fully automated kinematic viscometer specially designed to handle the unique needs of oil analysis laboratories for rapid viscosity determination of used oils for predictive maintenance purposes. The miniQV-X offers a unique blend of fast throughput and near ASTM D445 precision. At the core of the instrument resides the miniAV-X instrument, providing a familiar system and software user interface. The miniQV-X differs from the miniAV-X in three distinct ways:

- High-speed 25 position automatic sample carousel
- Specially designed single-determination fast-run viscometer tube
- Fast wash cycle with low solvent consumption

Carousel



The high-speed 25 position sample carousel replaces the miniAV-X standard 10-position carousel (81.2509). The new carousel was designed to work with industry standard 17 x 100 mm polyethylene sample vials. The HDPE sample vials offer the least expensive option for applications where vial disposal is a must yet consumable expense must be kept at an absolute minimum.



INSTRUMENT SPECIFICATIONS		
Instrument Model	miniAV-X	miniQV-X
Dimensions	254 mm wide x 437 mm deep x 526 mm high (10 x 17.25 x 20.7 in)	254 mm wide x 437 mm deep x 598 mm high (10 x 17.25 x 23.5 in)
Weight	18 kg (40 lbs) bath unit	27 kg (45 lbs) bath unit
Shipping Weight	57 kg (125 lbs)	68 kg (130 lbs)
Operating Conditions	15°C-30°C, 10%-90% RH non-condensing; Installation category II Pollution degree 2	
Fuse Rating	115V & 100V UNITS: M250V 8A, 1.25 x 0.25"; 230V Unit: M250V 4A, 1.25 X 0.25"	
Compliance	CE Mark: EMC directive (89/336/EEC); Low voltage directive (73/23/EEC); HI-POT (1900 VDC, 60 sec.)	
Computer Requirements	Computer not included, Please contact CANNON for specifications	
Catalog Number/ Electrical Requirements	miniAV-X	miniQV-X
	9725-A85 115V AC 50/60 Hz, 1000 watts	9725-A89 115V AC 50/60 Hz, 500 watts
	9725-A86 230V AC 50/60 Hz, 1000 watts	9725-A90 230V AC 50/60 Hz, 500 watts

SECTION 2:

Filling the sample vials

The minimum amount of sample required for testing can be as low as 4 ml to 5 ml. For best results, fill the sample vials approximately 2/3 full. Do not overfill the sample vials. If the sample vial is over-filled, the sample may overflow and spill onto the instrument when the vial is raised up and the viscometer inserts into sample.

SECTION 5:

Viscometer Tubes

The miniQV-X has a specially designed single-determination fast-run tube and washing system which allows for typical sample-to-sample cycle times of 2-1/2 minutes and solvent consumption of less than 8mL per sample. The normal flow times for each bulb are 15-25 seconds. Each tube has a tenfold measurement range. The upper viscosity limit is up to 10 times the lower viscosity limit, depending on the tube type.

Timing bulb determination

miniAV Bulb Selection Parameters		
Timing Bulb 2	Timing	Bulb 1
1-2.75 x lower cSt limit	>2.75 x lower cSt limit	

NOTE *The numbers listed in this table are approximations, not absolute values.*

Replacement Components

81.2549 Install kit

The installation kit contains all parts required for assembly/installation of the miniQV-X. Kit replacements may be purchased from **CANNON**[®] (part #81.2549).

The installation kit contains the following components:

DC Power Cable • AC Power Cord • (12') 1/8" solvent tubing • (2) solvent filters • (2) bottle caps • (16') VAC waste line (6 mm) • (2') 1/8" air line • 6 mm tubing for waste b union • RS-232 cable • 9(F)-24(M) cable adapter • bath fluid • 1200 sample vials • selected viscosity standards • Bath Fill Cap Assembly • 3"-4" vent coupling adapter • tubing cutter

81.2417 Spare parts kit

The spare parts kit contains a variety of tools used to accomplish minor service and replacement procedures. Refer to your packing list for a description of kit components. Kit replacements may be purchased from **CANNON**[®] (part #81.2417).

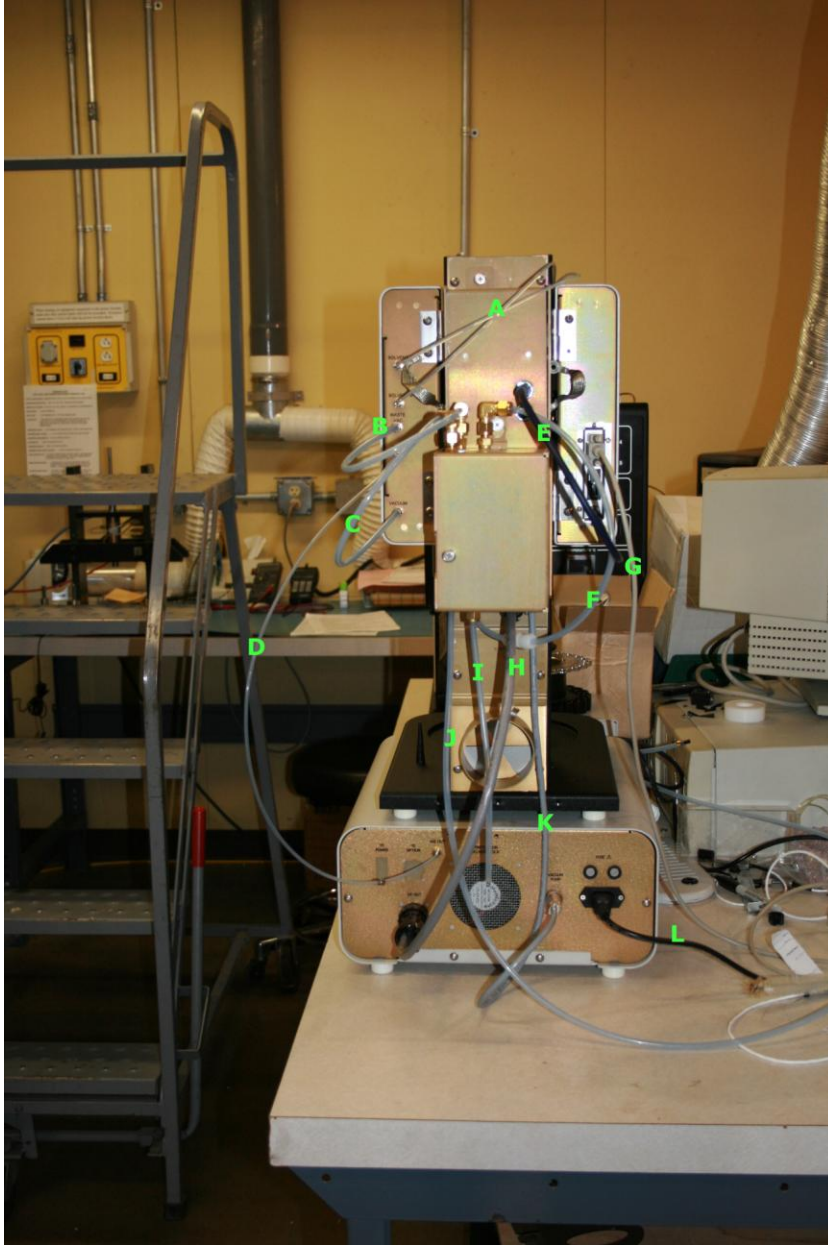
The spare parts kit contains the following components:

(4) fuses (8A for 115V, 4A for 230V unit) • (2) 6mm SMC fittings • drive belt • 3/16" hex key for drain • (2') drain tubing • 7/64 Hex key for elevate sensor

SECTION 14:

Replacement Parts:

81.2513	Valve control unit (ears)
81.2526	Carousel motor
81.2509	Carousel
81.2548	Sample vials
81.2507	Concentric tube fitting



- A. Solvent lines**
- B. Waste Vacuum**
- C. Vacuum**
- D. Pressure In**
- E. Video Cable**
- F. Drain line**
- G. Computer Cable**
- H. DC Voltage Cable**
- I. Tube to Waste Container**
- J. Vacuum In**
- K. Multi Unit Waste Receiver**
- L. Power Supply Cable**