



**TRYTE TECHNOLOGY (H.K.) LIMITED**  
**Tryte Instrument Manufacture Co.,LTD**  
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## 1、TR-TC-265H Intelligent Kinematic Viscometer



### Summary

This instrument is designed and made as per the industrial standard of People's Republic of China SY/T5651 Technical Condition of Petroleum Products Kinematic Viscosity Tester, GB/T 265 Petroleum products-Determination of kinematic viscosity and calculation of dynamic viscosity and ASTM D445 Standard Test Method for Kinematic Viscosity of Transparent and Opaque Liquids. It is suitable to determine kinematic viscosity of liquid petroleum products (Newtonian fluids) by measuring the time for a volume of liquid to flow under gravity through a calibrated glass capillary viscometer at a constant temperature.

### I. Main technical features

1. Single chip microcomputer and colored LCD technology. High intelligence and automation.
2. Intelligent signal sampling, data measuring, parameters operating, and result output. All the operations are finished automatically. English man-machine conversation interface. Easy to operate.
3. The instrument is equipped with timing function. It can choose valid flowing time period and calculate arithmetic average automatically. It can also preset the viscosity coefficient, calculate the viscosity after the test and print the test results automatically.
4. It can do one test alone or doing two tests at one time by setting the parameters. High efficiency.
5. It has the parameters saving function. The instrument will automatically save the parameters of capillary tube diameter, coefficient and so on after these parameters being setted. When doing test with the same capillary, no need to set these parameters again.
6. It adopts desktop and all-in-one machine design. Convenient to use.

### II. Main technical specifications

1. Power supply: AC(220±10%)V, 50Hz
2. Heating power: 1700W
3. Temperature range: Ambient to 100.0°C
4. Temperature control accuracy: ±0.01°C
5. Bath capacity: 20L
6. Timing range: 0.0s~9999.9s
7. Timing accuracy: ±0.05% within 60min
8. Amount of capillary viscometer tubes: 4 capillary viscometers
9. Stirring motor: 6 W, 1200 RPM
10. Working condition: (Ambient temperature-10)°C ~ 35°C, RH: ≤85%
11. Temperature sensor: RTD, Pt100
12. Maximum power consumption: 1800W

13. Capillary viscometers tubes(Pinkevitch viscometer): 7 pieces in total.The inner diameter for each: 0.6mm, 0.8mm, 1.0mm, 1.2mm, 1.5mm, 2.0mm, 2.5mm

14. Dimension: 530mm×400mm×670mm

#### Accessories:

No.	Item	Unit	Qty	Remarks
1	Capillary viscometer (total of 7)	Set	1	
2	Silica gel plug (3#)	Piece	1	
3	Capillary holder	Piece	4	
4	Rubber tube, $\Phi 10$	Meter	0.5	
5	Rod type mercury thermometer (0 ~ 50 °C, 50 ~ 100 °C, scale division all 0.1 °C) Grade: Standard Second Thermometer	Piece	1 for each	
6	Cover	A	4	
7	Stopping ring for thermometer (1#)	Piece	2	
8	15A fuse ( $\Phi 5 \times 20$ )	Piece	2	

## 2、TR-TC-265D-1 Kinematic Viscometer



#### Summary

This instrument is designed and made as per the industry standard of People's Republic of China SY/T5651 Technical Condition of Petroleum Products Kinematic Viscosity Tester, GB/T 265 Petroleum products-Determination of kinematic viscosity and calculation of dynamic viscosity and ASTM D445 Standard Test Method for Kinematic Viscosity of Transparent and Opaque Liquids. It is suitable to determine kinematic viscosity of liquid petroleum products (Newtonian liquids) by measuring the time for a volume of liquid to flow under gravity through a calibrated glass capillary viscometer tubes at a constant temperature.

#### I. Main technical features

1. The instrument is a kind of specially-made testing machine which the temperature control accuracy can reach  $\pm 0.01\text{ }^{\circ}\text{C}$  and having digital display.
2. It adopts hard glass bath and heat preservation cover(double shell).Good heat prevention and easy to observe the sample.
3. It adopts desktop and all-in-one machine design, convenient to use.
4. It adopts electric stirrer to ensure the uniform of bath temperature.

## II. Main technical specifications

1. Power supply: AC  $220 \pm 10\%$ , 50 Hz.
2. Heating power: 1000W(auxiliary heating), 600W(temperature control heating)
3. Stirring motor: 6 W, 1200 RPM
4. Temperature range: Ambient to  $100.0^{\circ}\text{C}$ .
5. Temperature control accuracy:  $\pm 0.01^{\circ}\text{C}$ .
6. Timer: 0.0s~999.9s
7. Constant temperature bath: 20L, double shall structure.
8. Ambient temperature:  $-10^{\circ}\text{C} \sim +35^{\circ}\text{C}$
9. Relative humidity:  $< 85\%$
10. Maximum power consumption: 1800W.
11. Capillary viscometer tubes(Pinkevitch viscometer): 7 pieces in total. The inner diameters for each: 0.6, 0.8, 1.0, 1.2, 1.5, 2.0 and 2.5mm
12. Dimension: 530mm×400mm×670mm(Bath is included)

**Note: This instrument is equipped with 7 pieces of Pinkevitch viscometer tubes. We can customize instrument equipping with Ubbelohde viscometer tubes or Cannon-Fenske Opaque(or Routine) Viscometer tubes according to customer's requirements.**

## Accessories:

No.	Item	Unit	Qty
1	Capillary viscometer (7 pieces in a group)	Group	1
2	Rod type mercury thermometer( $0 \sim 50\text{ }^{\circ}\text{C}$ , $50 \sim 100\text{ }^{\circ}\text{C}$ , scale division all $0.1\text{ }^{\circ}\text{C}$ )	Piece	1for each
3	Plumb bob	Piece	1
4	Sensor	Root	1
5	Bakelite cover	Piece	4
6	Capillary holder	Piece	4
7	Silica gel plug (3#)	Piece	2
8	10A fuse ( $\Phi 6 \times 30$ )	Piece	4
9	Round glass	Piece	1
10	Stopping ring for thermometer (1#)	Piece	4

### 3、TR-TC-265C Kinematic Viscometer



#### Summary

This instrument is designed and made as per the industrial standard of People's Republic of China SY/T5651 Technical Condition of Petroleum Products Kinematic Viscosity Tester. It is suitable to determine kinematic viscosity of liquid petroleum products (Newtonian liquids) at a constant temperature as per the stipulation in the national standard of People's Republic of China GB/T265 Petroleum products-Determination of kinematic viscosity and calculation of dynamic viscosity.

#### I. Main technical features

1. This instrument adopts LCD temperature controller, having features of rapid temperature control, fast response, small overshoot. The temperature control accuracy can reach  $\pm 0.1^{\circ}\text{C}$ .
2. The instrument adopts hard glass bath and heat preservation shell (double shell structure). The heat preservation property is good. Easy to observe the sample.
3. The instrument adopts desktop and all-in-one design. The integrality is good. Convenient to operate.
4. The instrument adopts electric stirring device. The temperature in water bath is uniform.

#### II. Main technical specifications

1. Power supply: AC(220 $\pm$ 10%)V, 50Hz $\pm$ 5%
2. Heating power: 1600W
3. Stirring motor: 6W, 1200RPM
4. Temperature control range: Ambient to 100 $^{\circ}\text{C}$
5. Temperature control accuracy:  $\pm 0.1^{\circ}\text{C}$
6. Constant temperature bath: 20L, double shell structure
7. Working environment: Ambient temperature: room temperature $\sim$ 35 $^{\circ}\text{C}$   
Relative humidity:  $\leq 85\%$
8. Temperature sensor: RTD, Pt100
9. Maximum power consumption: 1800W
10. Capillary viscometer tubes (Pinkevitch viscometer): 7 pieces in total, inner diameter for each: 0.6mm, 0.8mm, 1.0mm, 1.2mm, 1.5mm, 2.0mm, 2.5mm
11. Dimension: 530mm $\times$ 400mm $\times$ 670mm

This instrument is equipped with 7 pieces of Pinkevitch viscometer tubes. We can customize instrument equipping with Cannon-Fenske Opaque(or Routine)Viscometer tubes according to customer's requirements.

**Accessories:**

No.	Item	Unit	Qty
1	Capillary viscometer (a total of 7: 0.6, 0.8, 1, 1.2, 1.5, 2, 2.5 mm)	Piece	7
2	Rod type mercury thermometer(0 ~ 50 °C, 50 ~ 100 °C, scale division all 0.1 °C)	Piece	1for each
3	Plumb bob	Piece	1
4	Sensor	Root	1
5	Bakelite cover	Piece	4
6	Capillary holder	Piece	4
7	Silica gel plug (3#)	Piece	2
8	10A fuse (Φ6×30)	Piece	4
9	Round glass	Piece	1
10	Stopping ring for thermometer (1#)	Piece	4

**4、 Low Temperature Kinematic Viscometer (TR-TC-265G-1)**



**Summary**

The instrument is designed and made as per the industrial standard of People’s Republic of China SY/T5651 Technical Condition for Kinematic Viscosity of Petroleum Products. It is suitable to determine the kinematic viscosity of liquid petroleum products (Newtonian liquids) under a constant temperature (low temperature) as per the national standard of People’s Republic of China GB/T265 and ASTM D445 Petroleum products-Determination of kinematic viscosity of and calculation of dynamic viscosity.

**I. Main technical features**

1. It’s suitable to test the low temperature kinematic viscosity of petroleum oils. The minimum temperature can reach -35°C.
2. It adopts Dewar cold bath,It’s convenient and clear to read and observe the scale of capillary viscometer.

3. It can do determination for two samples at a time. The work efficiency is high.
  4. It adopts desk type and all-in-one machine type, with small volume, good integrality and easy to move.
  5. It is equipped with electric stirrer to make sure the temperature uniformity in the bath.
- Most important characteristics: advanced design of refrigerating system, excellent cooling effect; high precision temperature control, accuracy  $\pm 0.1^{\circ}\text{C}$ ; reasonable bath structure, stir well, good test result.

## II. Main technical specifications

1. Power supply: AC 220V $\pm$ 10%, 50 Hz
2. Heating device: Electric heater, 600 W
3. Refrigeration unit: refrigeration compressor
4. Stirring motor: 6 W, 1200 RPM
5. Temperature range: Ambient to  $-35.0^{\circ}\text{C}$
6. Temperature control accuracy:  $\pm 0.1^{\circ}\text{C}$
7. Constant temperature bath: 5.8 L, Dewar
8. Ambient temperature:  $\leq 30^{\circ}\text{C}$  Relative humidity  $\leq 85\%$
10. Temperature sensor: RTD, Pt100
12. Capillary viscometer tubes: 7 pieces in total. The diameters for each is 0.6, 0.8, 1.0, 1.2, 1.5, 2.0, 2.5 mm.
13. Maximum power consumption: less 1200 W
14. Dimension: 850mm $\times$ 410mm $\times$ 450mm

## I, TR-TC-265G-1 Low Temperature Kinematic Viscometer Accessories and Documents List

No.	Name	Unit	Qty	Memo
1	TR-TC-265G-1 Low Temperature Kinematic Viscometer	Set	1	
2	Capillary viscometer (a group 7 pieces)	Group	1	
3	Bath cover	Piece	2	
4	Capillary clamp	Piece	2	
5	Plastic water pump	Piece	1	
6	Ear washing bulb	Piece	1	
7	Operation manual	Piece	1	
8	Quality certificate	Piece	1	
9	Product warranty card	Piece	1	

## II, TR-TC-265G-1 Low Temperature Kinematic Viscometer's Reagent and Auxiliary Equipments

No.	Name	Specification	Quantity	Memo
1	Alcohol	Industry class	5 litres	
2	Petroleum ether 60-90 $^{\circ}\text{C}$	Analytical pure 500ml	1 bottle	
3	Distilled water	3 grade	Some	

### Notes:

- 1、 The reagent and equipments for installing the instrument are supplied by end-users themselves.
- 2、 The usage, management and saving of poisonous and harmful reagent, pls operate according to the relative principle.
- 3、 PLS read the operation manual and industry standard before using the instrument.

## 5、TR-TC-265B Kinematic Viscometer



### Summary

This instrument is designed and made as per the industrial standard of People's Republic of China SY/T5651 Technical Condition of Petroleum Products Kinematic Viscosity Tester. It is suitable to determine kinematic viscosity of liquid petroleum products(Newtonian fluids)at a constant temperature as per the stipulation in the national standard of People's Republic of China GB/T265 Petroleum products-Determination of kinematic viscosity and calculation of dynamic viscosity.

### I. Main technical features

1. This instrument adopts a type of all-in-one machine.The control switch adopts light-touch mode.It has the features of novel design,compact structure and beautiful appearance.
2. This instrument adopts LCD temperature controller.The temperature control is rapid.The response is fast.The overshoot is small.The temperature control accuracy can reach  $\pm 0.1^{\circ}\text{C}$ .
3. This instrument adopts hard glass bath and electric stirring device.Easy to observe the sample.The temperature in water bath is uniform.

### II. Main technical specifications

1. Power supply: AC(220 $\pm$ 10%)V, 50Hz
2. Heating device: Electric heating, power 600W
3. Stirring motor: 6W, 1200RPM
4. Temperature control range: Ambient to 100 $^{\circ}\text{C}$
5. Temperature control accuracy:  $\pm 0.1^{\circ}\text{C}$
6. Temperature sensor: RTD, Pt100
7. Ambient temperature: Room temperature $\sim 35^{\circ}\text{C}$
8. Relative humidity:  $\leq 85\%$
9. Capillary viscometer tubes (Pinkevitch viscometer):  
7 pieces in total, inner diameter for each: 0.6mm, 0.8mm, 1.0mm, 1.2mm, 1.5mm, 2.0mm, 2.5mm
10. Dimension: 500mm $\times$ 310mm $\times$ 500mm

### I,TR-TC-265B Kinematic Viscometer Accessories and Documents List

No.	Name	Unit	Qty	Memo
1	TR-TC-265B Kinematic Viscometer	Set	1	
2	Capillary viscometer	Piece	7	



3	Rod type mercury thermometer (0~50℃、50~100℃, scale mark 0.1℃)	Piece	Each 1	
4	Temperature sensor	Piece	1	
5	Plumb bob	Set	1	
6	Silical gel stopper of thermometer (3#)	Piece	2	
7	Bakelite cover	Piece	2	
8	Capillary clamp	Piece	2	
9	Fuse 6A (Φ5×20)	Piece	2	
10	Stopping ring of thermometer(1#)	Piece	4	
11	Heat insulation mat	Piece	1	
12	Line control timing button	Piece	1	
13	Ear whashing bulb	Piece	1	
14	Operation manual	Piece	1	
15	Quality certificate	Piece	1	
16	Product warranty card	Piece	1	

#### II,TR-TC-265B Kinematic Viscometer's Reagent and Auxiliary Equipments

No.	Name	Specification	Quantity	Memo
1	Glycerol or mineral oils		20L	The test temperature above 80℃
2	Petroleum ether 60-90℃	Analytical pure 500ml	1 bottle	
3	Distilled water	3 grade	Some	

#### Notes:

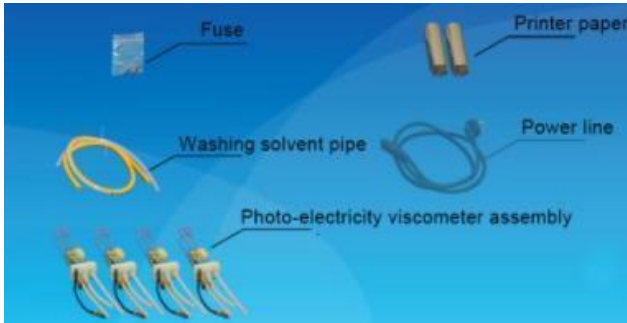
- 1、 The reagent and equipments for installing the instrument are supplied by end-users themselves.
- 2、 The usage,management and saving of poisonous and harmful reagent,pls operate according to the relative principle.
- 3、 PLS read the operation manual and industry standard before using the instrument.

## 6、 Automatic Intelligent Kinematic Viscometer



## Summary

The instrument is designed and made as per national standard of People's Republic of China GB/T 265 and ASTM D445 Petroleum products-Determination of kinematic viscosity and calculation of dynamic viscosity and GB/T1632-93 Test Methods for Viscosity Number and Limiting Viscosity Number of Polymers in Dilute Solution. It is suitable to determine Kinematic viscosity, viscosity number, and limiting viscosity number of oils and polymer in dilute solution. It has been widely used in the field of pharmaceuticals, petroleum, chemistry, scientific research, and metrology.



## I. Main technical features

1. This instrument adopts micro-computer as the central control component. It achieves prompt type operation.
2. This instrument can intelligently control the whole procedure of the test. It achieves the full automation of keeping temperature constant, time detection, viscosity calculation, viscometer tube cleaning and drying, and automatically print out test result.
3. This instrument has ability of fault identification and processing. It is convenient for user to analyze and judge the condition of instrument.

## II. Main technical specifications

- 1, Temperature sensor: Pt1000
- 2, Temperature range: 15°C~120°C
- 3, Temperature resolution: 0.001°C
- 4, Temperature control accuracy:  $\pm 0.04^\circ\text{C}$
- 5, Timing accuracy:  $\pm 0.1\text{s}$ , resolution ratio 0.01s
- 6, Sample quantity: 2 pcs
- 7, Usage environment: temperature 15°C~35°C, humidity less 85%
- 8, Power supply: AC220V  $\pm 10\%$  50Hz  $\pm 1\text{Hz}$
- 9, Total consumption:  $\leq 2100\text{W}$
- 10, Outline dimension: 550mm $\times$ 600mm $\times$ 1350mm(L $\times$ W $\times$ H)
- 11, Net weight: 125kg

Note: The instrument with standard configuration 4 pcs Ubbelohde capillary tubes, The inner diameters for each is 0.8mm, 1.0mm, 1.2mm and 1.5mm, If the user need other kinds of viscometer, pls inform us for customizing.

## I, TR-TC-265H-1 Automatic Kinematic Viscometer Accessories and Documents List

No.	Name	Unit	Qty	Memo
1	TR-TC-265H-1 Automatic Kinematic Viscometer	Set	1	
2	Vacuum suction device	Set	2	

3	Photo-electricity viscometer assembly ( Inner diamter 0.8 mm、 1.0 mm、 1.2 mm、 1.5 mm each 1 piece )	Piece	4	
4	Washing solvent pipe	Piece	2	
5	Power line ( 250V10A )	Piece	1	
6	Fuse ( $\phi$ 5×20、 10A )	Piece	2	
7	Printer paper	Roll	2	
8	Operation manual	Piece	1	
9	Quality certificate	Piece	1	
10	Product warranty card	Piece	1	

#### II,TR-TC-265H-1 Automatic Kinematic Viscometer's Reagent and Auxiliary Equipments

No.	Name	Specification	Quantity	Memo
1	Transformer oil	25# or 40#	20L	
2	Petroleum ether 60-90℃	Analytical pure 500ml	1 bottle	
3	Distilled water	3 grade	Some	

#### Notes:

- 1、 The reagent and equipments for installing the instrument are supplied by end-users themselves.
- 2、 The usage,management and saving of poisonous and harmful reagent,pls operate according to the relative principle.
- 3、 PLS read the operation manual and industry standard before using the instrument.

## 7. Kinematic viscosity / Reverse-flow viscosity / Viscosity Index Tester



### Summary

This instrument is designed and made as per the national standard of People's Republic of China GB/T265 Petroleum products-Determination of kinematic viscosity and calculation of dynamic viscosity, GB/T 11137 Black petroleum products-Determination of kinematic viscosity(reverse-flow method) and calculation of dynamic viscosity and GB/T 1995 Petroleum products-Calculation of viscosity index. It is used to determine the kinematic viscosity of liquid petroleum products (Newtonian liquids) and the kinematic viscosity of dark petroleum products.

It can also be used to determine the viscosity index of lubricating oils.

## I. Main technical features

1. Multifunctional. It can determine the kinematic viscosity of liquid petroleum products (Newtonian liquids) and the kinematic viscosity of dark petroleum products. It can also be used to determine the viscosity index of lubricating oils.
2. Micro-processor control and colored LCD technology. Chinese-English bilingual menu. GUI touch screen. Easy to operate.
3. Advanced digital control and display. Automatic kinematic viscosity determination
4. It can test 4 samples at a time. The parameters such as temperature, time, coefficient of capillary viscometer tube can be inputted in or displayed on the screen.
5. New-type temperature sensor. The temperature resolution is 0.01°C. Temperature control precision is ±0.05°C.
6. It can save 99 coefficients of capillary viscometer.

## II. Main technical specifications

1. Capacity of bath:  $\Phi 300\text{mm} \times 300\text{mm}$
2. Temperature range: Ambient to 100°C
3. Temperature resolution: 0.01°C
4. Temperature control precision: ±0.05°C
5. Timing precision: ±0.1s
6. Display: 5.6 inch colored LCD
7. Sample amount: 4 samples
8. Power supply: AC(220±10%)V, 50Hz±1Hz
9. Maximum power consumption: 1500W
10. Working environment: Ambient temp.: (15~35) °C ,RH<85%
11. Dimension: 615mm×500mm×580mm
12. Weight: 25.5kg

## I,TR-TC-265B-3 Accessories and Documents List

No.	Name	Unit	Qty	Memo
1	TR-TC-265B-3 Kinematic viscosity / Reverse-flow viscosity / Viscosity Index Tester	Set	1	
2	Capillary clamp(Pinkevitch)	Piece	4	
3	Capillary clamp (Cannon-Fenske)	Piece	4	
4	Pinkevitch viscometer:inner diameter 0.6、0.8、1.0、1.2、1.5、2.0、2.5 mm	Piece	Each 1	Total 7 pieces
5	Canno-Fenske Routine Viscometer:inner diameter 1.02、1.26、1.48、1.88、2.20、3.10、4.00 mm	Piece	Each 1	Total 7 pieces
6	Rod type mercury thermometer (0~50°C、50~100°C, scale mark 0.1°C)	Piece	Each 1	
7	Stopping ring of thermometer (1#)	Piece	2	
8	Dust cover	Piece	4	
9	Printer paper	Roll	2	
10	Fuse 10A (Φ5×20)	Piece	2	

11	Power supply line (250V/16A)	Piece	1	
12	Ear whashing bulb	Piece	1	
13	Operation manual	Piece	1	
14	Quality certificate	Piece	1	
15	Product warranty card	Piece	1	

## II,TR-TC-265B-3's Reagent and Auxiliary Equipments

No.	Name	Specification	Quantity	Memo
1	Glycerol or mineral oils		20L	The test temperature above 80°C
2	Petroleum ether 60-90°C	Analytical pure 500ml	1 bottle	
3	Distilled water	3 grade	Some	

### Notes:

- 1、The reagent and equipments for installing the instrument are supplied by end-users themselves.
- 2、The usage,management and saving of poisonous and harmful reagent,pls operate according to the relative principle.
- 3、PLS read the operation manual and industry standard before using the instrument

## Product Package:

**PACKING  
PROCESS**

Deliver with care - High quality modular packaging ensure goods safety.

