
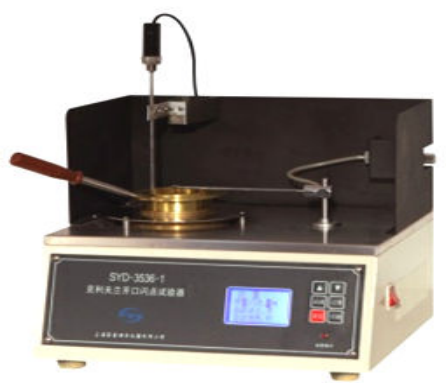



















I. Lubricating Oil Testing Instruments Recommendation




Test Project	No.	Name	Item	Standard	Characteristics	Technical Parameters	Picture
Flash Point	1	Cleveland Open-Cup Flash Point Tester	SYD-3536	ASTM D 92 GB/T3536	<ol style="list-style-type: none"> It adopts special heating furnace to ensure the safety of test. The heating power is continuously adjustable. It can meet requirements of test. The instrument adopts desktop structure. The stainless steel working table and furnace shell make it beautiful and elegant. The instrument is fully self-contained complete. The operator can do determination as long as connecting with coal gas or other civil gas. It equipped with flame extinguishing cover which accord with requirements of test. 	<ol style="list-style-type: none"> Power supply: AC (220±10%) V, 50Hz. Heating device: Quartz tube furnace heating, no naked fire, explosion prevented. The power is adjustable from 0W to 600W. Test flame applicator: It applies the test flame automatically. Thermometer: (-6~400) . It is the same as thermometer ASTM 11C. °C Igniting device: (1) Ignition source: coal gas (or civil gas) (2) Flame diameter is 3.2mm~4.8mm Ambient temperature: (-10 50) ~ °C Relative humidity: ≤85% Maximum power consumption: 650W Dimension: 350mm×290mm×350mm (thermometer is not included) 	
	2	Cleveland Open-Cup Flash Point Tester	SYD-3536-1	ASTM D 92 GB/T3536	<ol style="list-style-type: none"> It adopts technology of single chip microcomputer and LCD screen. English man-machine interface. The heating device is continuously adjustable. Easy to set parameters. The LCD screen has prompt menu, prompt type input for operation interface. It shows set parameters and real-time display sample temperature and other parameters. Press the record key when flash point appearing. The screen will display and save flash point value. It is newly design and small structure. Stainless steel working table make it elegant and beautiful. The operator can do determination as long as connecting with coal gas or other civil gas. Easy to use and results are exact. It is equipped with wind-shelter and flame extinguishing cover which are accord with requirements of test. Accurate heating rate. The instrument can do test automatically. Operator only need to observe the flash point appearing. The cost performance is high. 	<ol style="list-style-type: none"> Power supply: AC (220±10%) V, 50Hz. Heating device: Electric furnace heating, no naked fire, explosion prevented. The power is adjustable from 0W to 600W. The max heating temperature can reach 400°C. Temperature control: Single chip microcomputer. The heating rate can meet requirements of standards GB/T 3536-2008 and ASTM D92. Temperature display: LCD shows temperature parameters. The display range is 0°C~400°C, display accuracy is 0.1°C. Flash point detecting device: It applies the test flame automatically. Temperature sensor: RTD, PT100 Igniting device: (1) Ignition source: coal gas (or civil gas) (2) Flame diameter is 3.2mm~4.8mm Ambient temperature: (-10~50)°C Relative humidity: ≤85% Maximum power consumption: 650W Dimension: 340mm×320mm×450mm (Temperature sensor is included) 	
	3	Automatic Cleveland Open-Cup Flash Point Tester	SYD-3536A	ASTM D 92 GB/T3536	<ol style="list-style-type: none"> This instrument adopts LCD screen to display and full English man-machine interface. It can preset expected flash point temperature, sample mark number, barometric pressure and other parameters. It has menu prompt and input guide. It adopts simulation tracking to display the function curve of temperature rising and test time. It has the functions of English mis-operation prompt, test date, test time and other parameters. Automatically calibrate the effect of atmospheric pressure to test and calculate the corrected value. Differential coefficient detection. Automatically correct the system deviation. Automatically open the lid, detect the flash point and print test data. The test arm automatically rise up and lower down. Reasonable design, safe and convenient to operate. 	<ol style="list-style-type: none"> Power supply: AC220(-10%~+5%)V, 50Hz Flash point determination: Range: Ambient to 400°C Repeatability: ≤8°C Reproducibility: ≤17°C Accuracy: 0.1°C Heating rate: Correspond with GB/T3536 and ASTM D92 Ignition mode: Electric ignition. Gas flame diameter is 3.2mm~4.8mm Ambient temperature: (10~40)°C Relative humidity: ≤80% Maximum power consumption: 400W Dimension: 410mm×360mm×310mm 	
Kinematic Viscosity	4	Petroleum Products Kinematic Viscometer	SYD-265B	ASTM D445 GB/T 265	<ol style="list-style-type: none"> 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. 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 ±0.1°C. This instrument adopts hard glass bath and electric stirring device. Easy to observe the sample. The temperature in water bath is uniform. 	<ol style="list-style-type: none"> Power supply: AC(220±10%)V, 50Hz Heating device: Electric heating, power 600W Stirring motor: 6W, 1200RPM Temperature control range: Ambient to 100°C Temperature control accuracy: ±0.1°C Temperature sensor: RTD, Pt100 Ambient temperature: Room temperature~35°C Relative humidity: ≤85% 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 Dimension: 500mm×310mm×500mm 	




5	Petroleum Products Kinematic Viscometer	SYD-265C	ASTM D445 GB/T 265	<p>1. This instrument adopts LCD temperature controller, having features of rapid temperature control, fast response, small overshoot. The temperature control accuracy can reach $\pm 0.1^{\circ}\text{C}$.</p> <p>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.</p> <p>3. The instrument adopts desktop and all-in-one design. The integrity is good. Convenient to operate.</p> <p>4. The instrument adopts electric stirring device. The temperature in water bath is uniform.</p>	<p>1. Power supply: AC(220\pm10%)V, 50Hz\pm5%</p> <p>2. Heating power: 1600W</p> <p>3. Stirring motor: 6W, 1200RPM</p> <p>4. Temperature control range: Ambient to 100$^{\circ}\text{C}$</p> <p>5. Temperature control accuracy: $\pm 0.1^{\circ}\text{C}$</p> <p>6. Constant temperature bath: 20L, double shell structure</p> <p>7. Working environment: Ambient temperature: room temperature $\sim 35^{\circ}\text{C}$ Relative humidity: $\leq 85\%$</p> <p>8. Temperature sensor: RTD, Pt100</p> <p>9. Maximum power consumption: 1800W</p> <p>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</p> <p>11. Dimension: 530mm\times400mm\times670mm</p>	
6	Petroleum Products Kinematic Viscometer	SYD-265H	ASTM D445 GB/T 265	<p>1. Single chip microcomputer and colored LCD technology. High intelligence and automation.</p> <p>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.</p> <p>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.</p> <p>4. It can do one test alone or doing two tests at one time by setting the parameters. High efficiency.</p> <p>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.</p> <p>6. It adopts desktop and all-in-one machine design. Convenient to use.</p>	<p>1. Power supply: AC(220\pm10%)V, 50Hz</p> <p>2. Heating power: 1700W</p> <p>3. Temperature range: Ambient to 100.0$^{\circ}\text{C}$</p> <p>4. Temperature control accuracy: $\pm 0.01^{\circ}\text{C}$</p> <p>5. Bath capacity: 20L</p> <p>6. Timing range: 0.0s\sim9999.9s</p> <p>7. Timing accuracy: $\pm 0.05\%$ within 60min</p> <p>8. Amount of capillary viscometer tubes: 4 capillary viscometers</p> <p>9. Stirring motor: 6 W, 1200 RPM</p> <p>10. Working condition: (Ambient temperature-10)$^{\circ}\text{C}$$\sim35^{\circ}\text{C}$, RH: $\leq 85\%$</p> <p>11. Temperature sensor: RTD, Pt100</p> <p>12. Maximum power consumption: 1800W</p> <p>13. Capillary viscometers tubes (Pinkevitch viscometer): 7 pieces in total. The inner diameter for each: 0.6mm, 0.8mm, 1.0mm, 1.2mm, 1.5mm, 2.0mm, 2.5mm</p> <p>14. Dimension: 530mm\times400mm\times670mm</p>	
7	Automatic Kinematic Viscometer	SYD-265H-1	ASTM D445 GB/T 265	<p>1. This instrument adopts micro-computer as the central control component, with 10.2 inch color LCD display and touch screen. It achieves prompt type operation to judge the fault, error message and trouble shooting capacity.</p> <p>2. Using the new type temperature sensor and calculation way, the resolution can reach 0.001$^{\circ}\text{C}$, accuracy is $\pm 0.04^{\circ}\text{C}$.</p> <p>3. Floor stand, all in one machine, Both A and B working units can test the 2 different samples in synchronization or asynchronization by automatically or hand.</p> <p>4. Automatic test process includes constant temperature, oil sample updraughting, detecting, calculating, viscometer cleanout, fully automatically drying, and instore 100 detecting records.</p> <p>5. Using one or two types cleanout fluids to wash, make sure the viscometer clean before drying, the cleanout time can be set freedom.</p> <p>6. With the viscometer calibration program [JJG155] and with the viscosity index calculator.</p>	<p>1. Temperature sensor: Pt1000</p> <p>2. Temperature range: 15$^{\circ}\text{C}$$\sim120^{\circ}\text{C}$</p> <p>3. Temperature resolution: 0.001$^{\circ}\text{C}$</p> <p>4. Temperature control accuracy: $\pm 0.04^{\circ}\text{C}$</p> <p>5. Timing accuracy: $\pm 0.1\text{s}$, resolution ratio 0.01s</p> <p>6. Sample quantity: 2 pcs</p> <p>7. Usage environment: temperature 15$^{\circ}\text{C}$$\sim35^{\circ}\text{C}$, humidity less 85%</p> <p>8. Power supply: AC220V $\pm 10\%$ 50Hz$\pm 1\text{Hz}$</p> <p>9. Total consumption: $\leq 2100\text{W}$</p> <p>10. Outline dimension: 550mm\times600mm\times1350mm (L\timesW\timesH)</p> <p>11. Net weight: 125kg</p> <p>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.</p>	
8	Low Temperature Kinematic Viscometer	SYD-265G	ASTM D445 GB/T 265	<p>1. This instrument is a kind of specially made instrument suitable to test the low temperature kinematic viscosity of petroleum oils. It adopts advanced technology of compressor refrigeration. The minimum temperature can reach -65$^{\circ}\text{C}$.</p> <p>2. It is equipped with lighting device for operator observing the indication more clearly.</p> <p>3. It can do determination for two samples at a time. The work efficiency is high.</p> <p>4. It adopts a floor type of all-in-one machine. Easy to move.</p> <p>5. It is equipped with electric stirrer to make the temperature in bath uniform.</p>	<p>1. Power supply: AC 220V$\pm 10\%$, 50 Hz</p> <p>2. Heating device: Electric heater, 600 W</p> <p>3. Refrigeration unit: Double refrigeration compressors</p> <p>4. Stirring motor: 6 W, 1200 RPM</p> <p>5. Temperature range: Ambient to 100.0$^{\circ}\text{C}$</p> <p>6. Temperature control accuracy: $\pm 0.1^{\circ}\text{C}$</p> <p>7. Constant temperature bath: 5.8 L, stainless steel.</p> <p>8. Ambient temperature: $\leq 30^{\circ}\text{C}$</p> <p>9. Relative humidity: $\leq 85\%$</p> <p>10. Temperature sensor: RTD, Pt100</p> <p>11. Illumination: 220 V electricity-saving lamp.</p> <p>12. Capillary viscometer tubes (Pinkevitch viscometer): 7 pieces in total. The diameters for each is 0.6, 0.8, 1.0, 1.2, 1.5, 2.0, 2.5 mm.</p> <p>13. Maximum power consumption: 1700 W</p> <p>14. Dimension: 530mm\times460mm\times870mm</p>	




	9	Kinematic viscosity / Viscosity index Tester	SYD-265B-3	ASTM D445 GB/T 265 GB/T 1995	<ol style="list-style-type: none"> Multifunctional. It can determine the kinematic viscosity of liquid petroleum products (Newtonian liquids) and dark petroleum products. It can also be used to determine the viscosity index calculation of lubricating oils and related substance. Micro-processor control and color LCD display. Chinese-English bilingual menu. GUI touch screen. Easy to operate. With advanced digital control and display in automatic kinematic viscosity determination. The time when the liquid sample in the capillary tube reach each marking line should be set by manual, the remaining test processes are completed automatically. With the dual cylinders. At the same time, the kinematic viscosity could be done at high and low temperature conditions, and then automatically calculate the viscosity index value of the sample. The parameters such as temperature, time, coefficient of capillary viscometer tube can be inputted in or displayed on the screen. New-type temperature sensor. The temperature resolution is 0.01 °C. Temperature control precision is ±0.05 °C. 	<ol style="list-style-type: none"> Capacity of bath: Φ240mm×280mm Temperature range: Ambient to 150 °C Temperature resolution: 0.01 °C Temperature control precision: ±0.05 °C Temperature sensor: PT100, Industrial platinum resistor Timing precision: ±0.1s Display: 5.6 inch colored LCD (Touch display) Sample amount: 2 samples Power supply: AC(220±10%)V, 50Hz±1Hz Maximum power consumption: ≤750W Working environment: Ambient temp.: (15~35) °C, RH <85% Dimension: 870mm×440mm×550mm Net weight: 33kg 	
Vacuum Distillation Apparatus	10	Vacuum Distillation Apparatus (Digital Display)	SYD-0165A	ASTM D1160 SH/T 0165	<ol style="list-style-type: none"> This instrument adopts high accuracy pressure sensor and digital pressure gauge. The design is reasonable and technology is advanced. It can meet requirements of standard SH/T 0165-92. The power of the heating furnace can be adjusted continuously. It equips a cooling device to make the heating furnace cooled down rapidly after determination. It is convenient for next test. The vacuum pump has good effect and rapid vacuum time. The max residual pressure is 2mmHg. 	<ol style="list-style-type: none"> Power supply: AC(220±10%)V, 50Hz Heating power: Heater for distillation flask: 1000W, Heater for receiver: 350W Heating furnace of distillation flask: (0~1000)W, adjustable Temperature control point of air bath of receiver: Ambient to 100 °C, adjustable Temperature sensor of air bath: Pt100, RTD Temperature control mode: Digital temperature controller Temperature control precision: Set temp. ±1 °C Capacity of buffer vessel: 1000ml Max. residual pressure: 2mmHg Digital pressure gauge: (0~200) mmHg Illumination light in the air bath: Energy saving lamp Working condition: Ambient temp.: (5~35) °C RH: < 85% Dimension: 580mm×230mm×605mm 	
	11	Semi-automatic Vacuum Distillation Apparatus (Touch Screen)	SYD-0165B	ASTM D1160 SH/T 0165	<ol style="list-style-type: none"> It adopts single-chip machine technology to control the vacuum pressure automatically. It adopts high accuracy temperature sensor to detect the steam temperature automatically. No need to observe it by naked eye. It adopts LCD technology, can input, modify and show parameters and control them by touch screen. It equips a micro-printer to save and print test results. 	<ol style="list-style-type: none"> Power supply: AC(220±10%)V, 50Hz. Heating furnace of distillation flask: (0~1000)W, adjustable Heating power of receiver: 350W, automatically controlled. Temperature control point of receiver: Ambient to 99 °C ±3 °C, adjustable. Setting range of vacuum residual pressure: (2~99) mmHg ±0.1 mmHg. Measurement range of vacuum residual pressure: (2~150) mmHg ±0.1 mmHg, automatic pressure maintenance Volume of buffer vessel: 1000ml Illumination light in the air bath: Energy saving lamp Working condition: Ambient temp.: (5~35) °C RH: < 85% Dimension: 600mm×230mm×605mm 	
Solidifying Point	12	Solidifying Point Tester	SYD-510G	ASTM D852 GB/T510	<ol style="list-style-type: none"> The material of workbench is stainless steel. It has two cooling baths in one chamber. The two cooling baths are the same in temperature. It adopts special technology. It is no need to use cooling liquid in cold chamber. The cooling rate is fast and efficiency is high. The temperature in cooling baths is uniform and it can reach -70 °C. The precision is ±0.5 °C. The instrument adopts bench structure. The design is simple and easy to use. Operator can do solidifying point test as long as buying this equipment. 	<ol style="list-style-type: none"> Power supply: AC (220±10%), 50Hz Working chamber: Two test baths in one chamber. The temperatures are the same. Temperature range: Ambient to -70 °C Temperature control accuracy: ±0.5 °C Refrigeration: New-type refrigeration compressor Ambient temperature: ≤30 °C Relative humidity: ≤85% Maximum power consumption: 1000W Dimension: 620mm×460mm×355mm 	


Pour Point	13	Petroleum Products Automatic Pour Point Tester	SYD-3535Z	ASTM D97 GB/T3535	<p>1.With the embedded computer,imported industrial personal computer,10.4 inch LCD touch display,English version operation system.</p> <p>2.With the PPT imaging technology,the computer can automatically detect,analyze and judge the pour point of the oil sample.</p> <p>3.Automatically finishing the sample lifting,pouring,detecting;self-clocking,automatically judging,storing and printing out the test results etc.</p> <p>4.With the fast detecting function,it can set the lowest temperature of the cold bath according to the expecting pour point,and shorten the test time through the fast cooling the sample.</p> <p>5.With the fault self-detecting,analyzing,judging functions,and displaying them on screen.</p> <p>6.With the imported glass temperature sensor,Its heat conductivity coefficient is same as the mercury in-glass thermometer,but it's the precision is much better.</p> <p>7.With the metal cold bath,the imported double compressors in cascade refrigeration,and the fast cooling.</p> <p>8.With double baths and double holes,separate bath temperature control,it can test 2 groups of samples at a time.The sample could be made the full test at all different temperature point.</p> <p>9.With the port to connect with LIMS system and connecting with multi-machine by network.</p>	<p>1. Lowest test pour point: - 56 °C</p> <p>2. Temperature control range: -69 °C ~ +48 °C</p> <p>3. Bath temperature accuracy: ±0.5 °C</p> <p>4.Cooling rate:from 48 °C to -70 °C ≤ 15mins</p> <p>5. Period of every 17 °C dropped: ≤ 150s</p> <p>6. Halt interval time: > 30min</p> <p>7.Test holes: 2</p> <p>8. Power supply: AC220V±10%, 50Hz±1</p> <p>9. Maximum power consumption: 1800W</p> <p>10. Working environment: Ambient temperature 5 °C to 40 °C , RH < 85%</p> <p>11. Dimension: 700mm×550mm×640mm(L*W*H)</p> <p>12. Net weight: 106Kg</p>	
Freezing Point	14	Automatic Freezing Point Tester	SYD-2430A	ASTM D1177 D2386 GB/T 2430 SH/T 0090	<p>1.The cold bath is made of stainless steel,double glass observing window,with the advanced temperature control technology,the lowest teperature degree is -70 °C,the temperature accuracy is ±0.5 °C,fitting standard GB/T 2430,SH/T 0090 and ASTM D1177,D2386 for the freezing point test requirement.</p> <p>2.Automatically judge the freezing point temperature.</p> <p>3.According to the different configuration,it can be used to test the freezing point etc.indexes of jet fuel,engine coolant and its concentrated solution,it's a multipurpose freezing point tester.</p> <p>4.It's the floor stand structure,the work table-board is made of stainless steel,concise design,nice appearance,convenient usage,fully furnished.</p> <p>The maximal characteristic:Unit as one to measure jet fuel freezing point and engine coolant freezing point;automatically stirring sample and judging the freezing point temperature,fast cooling,high precision temperature control,full spraying plastic case,wear well.</p>	<p>1. Power supply: AC 220 V±10%, 50 Hz;</p> <p>2. Working bath: stainless steel,double vacuum glass observing window.</p> <p>3. Freezing point range:-54 °C ~ 2 °C.</p> <p>4. Cold bath measurement temperature: -70 °C ~ 20 °C</p> <p>5. Temperature controlling accuracy: ±0.5 °C</p> <p>6.Bath liquids stirring: electric stirring.the power is 6W,1200r/min.</p> <p>7. Refrigerator system:imported refrigerator compressor</p> <p>8.Sample stirring: mechanical stirring is 0 ~ 120r/min,continuously adjustable</p> <p>9. Ambient temperature: ≤ 30 °C.</p> <p>10. Relative humidity: ≤ 85%</p> <p>11. Maximum power consumption: 2000 W</p> <p>12.Dimension: 560mm×550mm×810mm</p>	
Demulsibility Characteristics	15	Demulsibility Characteristics Tester(Desktop structure)	SYD-7305	ASTM D1401 GB/T7305	<p>1. This instrument adopts small bath and desktop structure. It is easy to operate and good-looking.</p> <p>2. It adopts electric motor to stir automatically. The temperature is uniform. It can do determination for 5 samples one by one.</p> <p>3. The lifting of stirring device is convenient. The stirring paddle has good concentricity with cylinders. No tremble or touching the cylinder wall.</p>	<p>1. Power supply: AC(220±10%)V, 50Hz</p> <p>2. Temperature range: (Room temp. ~ 99.9) °C</p> <p>3. Temperature control accuracy: ±1 °C</p> <p>4. Resolution: 0.1 °C</p> <p>5. Temperature display: Digital</p> <p>6. Timing range: 1s ~ 9m 59s</p> <p>7. Timing set: Dial control</p> <p>8. Time display: Digital</p> <p>9. Stirring rate: (1500±15)r/min</p> <p>10.Heating power: 1000W</p> <p>11.Ambient temperature: (Room temp. ~ 35) °C</p> <p>12.Relative humidity: ≤ 85%</p> <p>13.Maximum Power consumption: 1200W</p> <p>14.Dimension: 500mm×340mm×720mm</p> <p>Note: If the required temperature is lower than room temperature,it can equip ZL-1 portable cooler manufactured by our company.</p>	

Foaming Characteristic	16	Lubricating Oil Foaming Characteristic Tester	SYD-12579	ASTM D892 GB/T12579	<ol style="list-style-type: none"> The instrument adopts all-in-one structure. It includes three parts: low temperature test part and its control, high temperature test part and its control, a portable cooler for low temperature test part. The temperature controller has parameters modifying function. If there is bias between showing temperature and testing temperature, it can be corrected by this function. The instrument equips an automatic timing alarm. When it reaches the constant temperature point, the timer will run automatically and meanwhile it will blow. After 5 minutes, it will cut off the blowing and keep it in peace for 10 minutes. After 10 minutes, the instrument will alarm automatically to mean the end of the test. 	<ol style="list-style-type: none"> Power supply: AC(220±10%)V, 50Hz Constant temperature heating power: 650W Auxiliary heating power: 1000W Cooling power: 500W Air flow rate: (94±5)ml/min, adjustable Temperature control range for high temperature bath: (Room temp.~99.9)°C Temperature control range for low temperature bath: (5~99.9)°C Temperature control accuracy: ±0.5°C Timer: 5min and 10min, accurate to second Timing accuracy: 0.01%+0.05s (20°C) Ambient temperature: (-10~+40)°C Relative humidity: ≤85% Maximum power consumption: 2700W Dimension: Main unit: 690mm×460mm×700mm Cooler: 400mm×450mm×300mm 	
Trace Water Content	17	Automatic Trace Water Content Tester(Coulometric Karl Fischer)	SYD-2122C	ASTM D1533 ASTM D6304 GB/T 7600	<ol style="list-style-type: none"> 240×128 graphics dot-matrix LCD screen. High precision measuring electrode make it rapidly and accurately to find the end point. It also has a good antijamming capability. It adopts electrolyte blank current compensation and equilibrium point drift compensation, two methods to correct measurement result. It has automatic detecting function for open-circuit fault and short-circuit fault of measuring electrode. It can save at most 255 data with time mark. It has a calendar clock inside. It keeps time precisely. It has screen protection function. The LCD screen will shut off if there is no operation for a long period. USB port to connect with computer 	<ol style="list-style-type: none"> Amount and precision of electrolyzed water: 1) 10ug~1000ug, ±2ug 2) >1000ug, 0.2% Measurement range: 0~100 mg Resolution: 0.1ug Maximum electrolysis speed: 40ug/s Power supply: AC 220V±20%, 50 Hz Maximum power consumption: 30 W Ambient temperature: 10°C~35°C Relative humidity: ≤85% Dimension: 320mm×240mm×150mm Net weight: 5 kg 	
Water Content	18	Petroleum Products Water Content Tester	SYD-260A	ASTM D95 GB/T260	<ol style="list-style-type: none"> The instrument is designed totally meeting the requirements of GB/T260. The gripper is designed reasonably. The installation and dismantlement are convenient. The heating power is continuously adjustable. The voltmeter displays the power intuitively. The temperature control is reasonable. It can do parallel test for two samples. The working efficiency is high. 	<ol style="list-style-type: none"> Power supply: AC(220±10%)V, 50Hz Heating power of electric furnace: 1000W×2 Heating control: Can be continuously adjusted by a silicon knob Ambient temperature: ≤35°C Relative humidity: ≤85% Maximum power consumption: 2200W Dimension: 430mm×320mm×700mm <p>Note: we can customize the electric jacket model for none naked fire test as customer's need</p>	
Acid Number	19	Petroleum Products Acid Number Tester(Potentiometric Titration)	SYD-264B	ASTM D664 GB/T264 GB7599 GB/T7304	<ol style="list-style-type: none"> Windows operating platform, Users can dialogue with the computer directly. It's easy to operate. Has a workstation features. High resistance input, detecting signal stabilization and reliability. Titration curve real-time display, the titration curve and data storage and printing. Test results can be stored as word format. The data of test process can be stored as excel format. Copying test data can realize the test curve, test results and test data to print. Automatic fluid infusion, automatic definite value to add liquid. 	<ol style="list-style-type: none"> Acid number measurement range: ≥0.05 mgKOH/g Potential measurement range: (0~1800.0) mV Burette volume: 10mL Minimum titration volume: 0.001mL Burette precision: ±0.1%F•S Precision: Fit or above the relative standards Power supply: AC(220±11)V, 50±1Hz Environment temperature: 5°C~35°C Relative humidity: Less 80% Outline dimension: About 350mm×280mm×178mm (L×W×H、Without PC) Net weight: Main unit 14Kg 	

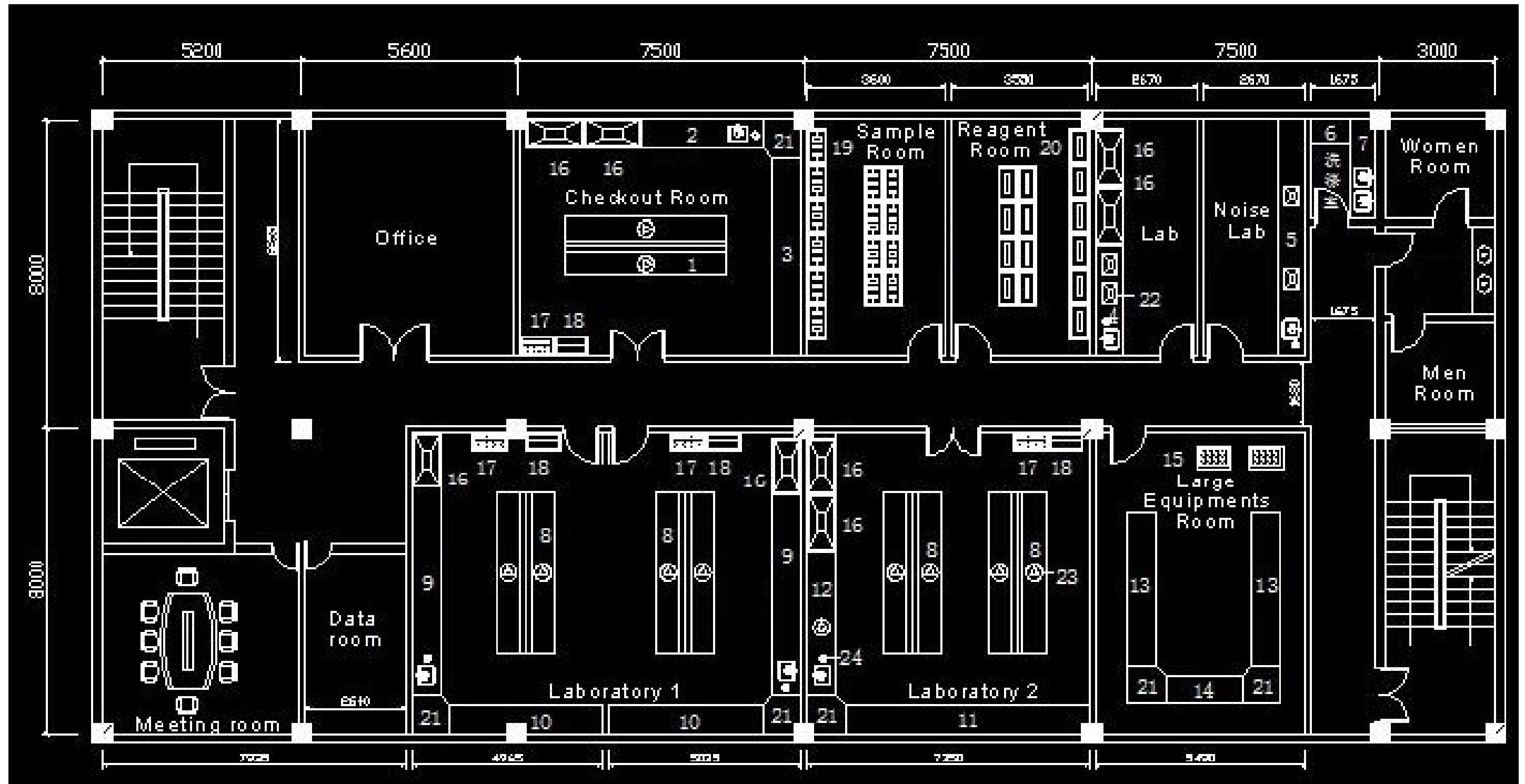
Oxidation Stability	20	Automatic Lubricating Oils Oxidation Stability Tester (Rotating oxygen bomb method)	SYD-0193	ASTM D2272 SH/T 0193	<ol style="list-style-type: none"> 1. This instrument is fully designed as per standard SH/T0193. It can automatically determine pressure, record data, calculate oxidation time and finish the determination. 2. The test procedures can be done automatically. No need for human interference. The test precision is high. 3. The test curves and results will be shown on the screen and can be restored and printed if needed. 	<ol style="list-style-type: none"> 1. Power supply: AC220V±10% 2. Heating tube power: 2500W 3. Range for pressure sensor: (0~1.6)MPa, accuracy: ±2‰ 4. Temperature control range for oil bath: Room temperature~200.0℃, continuously adjustable.150.0℃ in common use. 5. Temperature control accuracy: ±0.1℃ 6. Test sample: Two-bomb design, can do two samples at one time. Convenient to do parallel test. 7. Rotation speed: (100±5)r/min 8. Included angle between oxygen bomb and water level: 30° 9. Volume of oil bath: 30L 10.Dimension: 550mm×800mm×1000mm 11.Net weight: About 45Kg 	
	21	Automatic Lubricating Oils Oxidation Stability Tester	SYD-0193B	ASTM D2272-2009	<ol style="list-style-type: none"> 1. All-in-one design instrument,high level of integration,touch screen,no external computer and keyboard etc. 2. Metal bath design,It eliminate both the lampblack harm to operator and environmental pollution,also simplify the operation. 3.Double holes design,it can test 2 kinds of samples at same time,and is more convenient for operator to make the parallel test. 4.The rotation of oxidation bomb changed to the flask rotation,It ensures the stable rotating speed of the flash in the cylinder at (100±1) r/min and without noise. 5.With inner IPC(industrial personal computer),fully automatic work mode,10.1 inch touch screen,English version interface,unit the test part and the control part as one,desktop structure,easy operation and nice outline. 6.With the cold fan system to shorten the time interval of continuous tests. 7.With the decompression system,it's convenient to adjust the needed pressure value of the air source,also convenient to inflate and deflate. 8.With the high precision pressure sensor to detect the inner pressure of the cylinder,the test data is reliable and stable.With the high precision temperature sensor to automatically detect and control the temperature of the metal bath. 9.The software design is with high degree of automation,It's sufficient to consider the user's operating habit and standard requirements.it could automatically complete a series of operations,and give the relevant operating hints on the interface to guide the user in doing next operation and avoid the mistake. 	<ol style="list-style-type: none"> 1.Bath temperature control point: 140℃,150℃ 2.Temperature accuracy: ±0.1℃ 3.Pressure measurement range: (0~1.6) MPa 4.Pressure measurement accuracy: ±2‰ 5.Work mode:double metal bath,2 kinds of samples tested at same time or 1 type sample tested 6.Rotation speed: (100±5)r/min 7.Included angle between oxygen bomb and water level: 30° 8.Power supply: AC (220±10%) V,50Hz 9.Total power consumption: <1500W 10.Environment temperature: -10℃ ~40℃ 11.Relative humidity: ≤85% 12.Heating tube power: 2500W 13.Dimension: 500mm×370mm×540mm(L*W*H) 14.Net weight: About 25Kg 	
Evaporating Loss	22	Lubricating Oil Evaporating Loss Tester(Noack A method)	SYD-0059A	ASTM D5800 NB/SH/T 0059	<ol style="list-style-type: none"> 1.With the color touch screen,all data real-time display,parameters input and adjustment,test results etc are all operated and checked on touch screen,with the advance technology and convenient operation. 2.Adopting the heating device of metal bath,safety and environmental protection. 3.With the imported precision differential pressure gauge and precision needle valve pressure regulating system,ensure the accuracy of test pressure. 4.The bath with wood alloy has the excellent property of heat conduction. 5.Evaporation crucible fit the ASTM and NB/SH/T 0059 standard. 6.Equipped with the professional vacuum draw system and buffer device,ensure the stability and reliability in the process of suction. 7.With the singlechip and high precision temperature sensor,temperature control is accuracy and high precision. 	<ol style="list-style-type: none"> 1.Temperature control range:room temperature to 250℃ 2.Temperature control accuracy: ±0.5℃ 3.Temperature control method: automatic 4.Heating way:metal bath heating 5.Heating power: 1200W 6.Suction way:vaccum pump 7.Environment temperature: 10~35℃ 8.Relative humidity: ≤85% 9.Power supply: AC (220±10%) V,50Hz 10.Total consumption:less 1600W 11.Outline dimension: main unit(heating control part) 320mm×280mm×500mm auxiliary machinery(stable pressure suction section) 405mm×320mm×450mm (L*W*H,without vacuum pump) 	

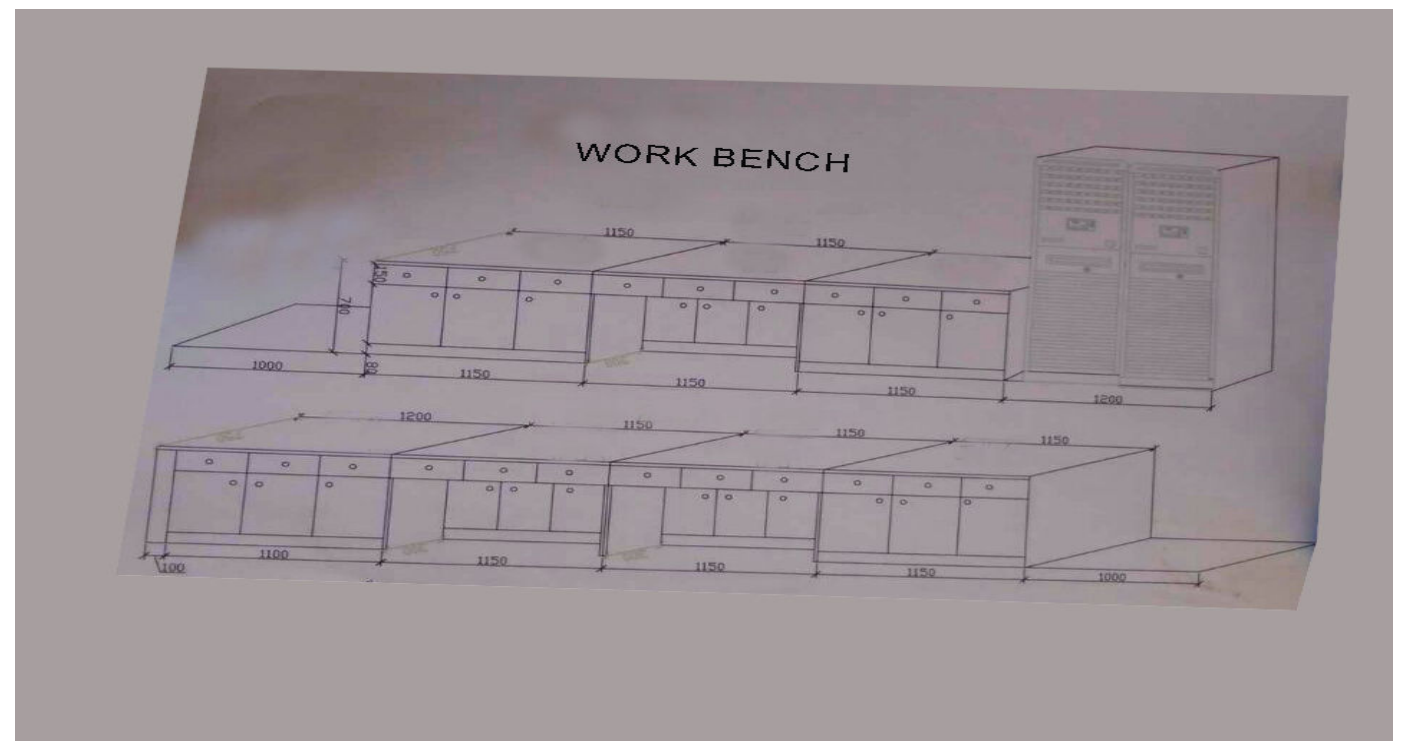
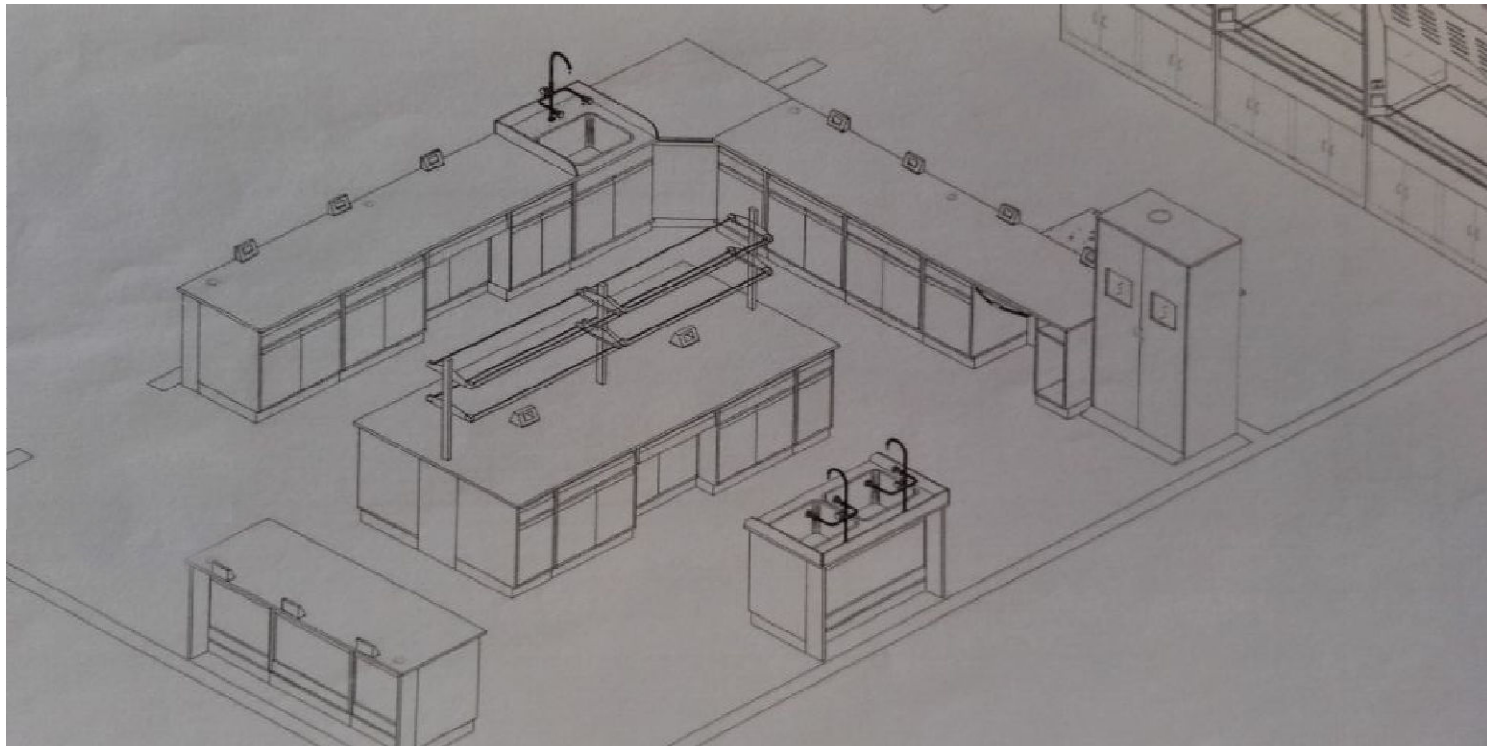
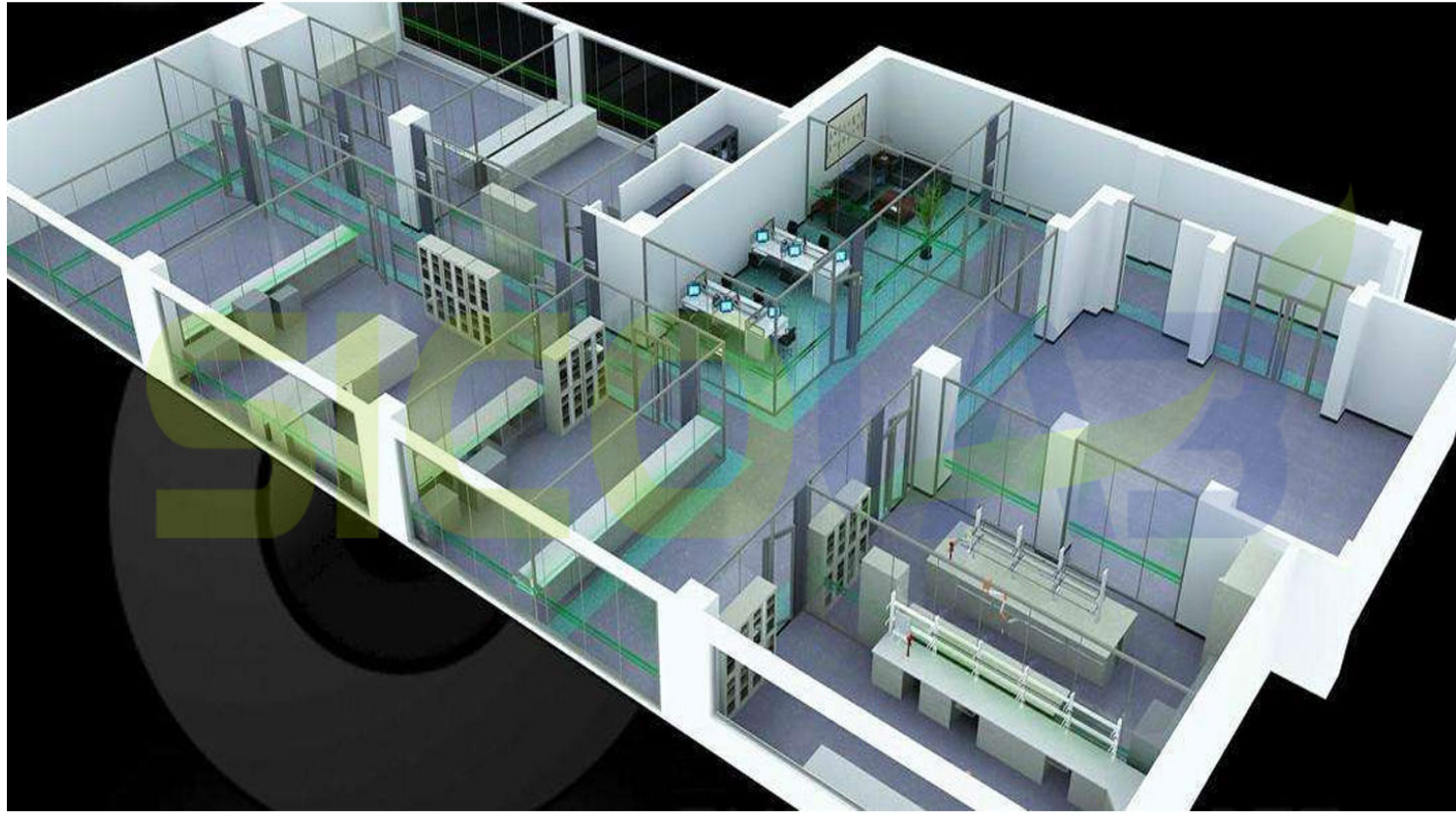
Sulfur-in-Oil	23	X-ray Fluorescence Sulfur-in-Oil Analyzer	SYD-17040	ASTM D4294 GB/T 17040	<p>(1) With electrical, mechanical and microprocessor integration design, so it is compact and beautiful;</p> <p>(2) It can determine various products and in a wide measurement range. It is rapid for analysis and it only need little standard sample.</p> <p>(3) Adopts fluorescence intensity ratio analysis methods, it can make correction to temperature and pressure automatically and it can also make correction to ratio of carbon and hydrogen (C/H).</p> <p>(4) Large LCD for display; Man-machine conversation system; Sound alarm for operation mistake;</p> <p>(5) It has self-diagnostic function, so it can determine its working state and electric parameters by making counting measurement and energy spectrum measurement using reference samples.</p> <p>(6) Equipped with a RS232 serial port, it can connect with any computer or web system.</p> <p>(7) It takes disposable sample cell with Mylar film, so it can avoid cross contamination. Sample cell is made by a multifunctional pressure shaping device, so it is rapid and convenient. There is a hole on the sample cell cover and you can record sample serial number, S% (m/m), and date on the sample cell cover.</p> <p>(8) The sample holder is installed on a slide rail, so it can move out and move in automatically. It can move out from inside of the instrument for sample location and anti-leakage parts replacement. It is convenient and it can avoid any contamination to detection system.</p> <p>(9) It can save large quantity of test data. You can browse test data and calibration curves at any time.</p> <p>(10) It uses a thermal printer, so it is easy to replace printing paper.</p> <p>(11) Tightly protection measures to avoid oil leakage. The sample cell is placed on the leakage protection device. The sample cell can enter into the detection system together with the leakage protection device only during sample analysis procedures. If the instrument is not at sample analysis state, the leakage protection device will move out, so this can avoid any contamination to the detection system.</p> <p>(12) Its safe X-ray protection measures can keep people from injury of X-ray radiation.</p>	<p>(1) Measuring range: 20ppm to 5%</p> <p>(2) Repeatability (r): <0.02894 (X+0.1691)</p> <p>(3) Reproducibility (R): <0.1215(X+0.5555)</p> <p>(4) Detection limit: 7 ppm</p> <p>(5) Oil sample quantity: 2.5 ml (it is equal to sample depth of 4.5 mm)</p> <p>(6) Measurement time: it can preset 60, 120, 240, 300, and 600 s at random</p> <p>(7) It can make measurement automatically for single sample. Repeat times: can set 2, 3, 5, 10, and 50 at random; it will show average value and standard deviation at end of measurement.</p> <p>(8) Calibration curve numbers: it can save 9 calibration curves. 5 pieces of them are unary linear equation and 4 pieces of them are unary quadratic equation.</p> <p>(9) Working condition: Ambient temperature: 5~40℃ Relative humidity: ≤85% (30 ℃)</p> <p>(10) Power supply: AC 220V±20V, 50 Hz; Rated power: 30 W</p> <p>(11) Dimension and weight: 468mm×368mm×136mm; 13 kg</p>	
Copper Strip Corrosion	24	Copper Strip Corrosion Tester	SYD-5096A	ASTM D130 GB/T 5096	<p>1. It adopts LCD temperature controller, heater and electric stirrer to form the constant bath. The temperature in bath is uniform. The temperature controller has timing function. It can control the test time and automatically timing. There will be alarm when finished.</p> <p>2. The instrument has four sample holes. One bomb or three tubes can be put in each hole to be determined. The test efficiency is high.</p> <p>3. The instrument equips a standard color board imported from USA. It can meet requirements of test method.</p>	<p>1. Power supply: AC 220 V±10%, 50 Hz</p> <p>2. Temperature sensor: RTD, Pt100</p> <p>3. Temperature range: Ambient to 100 ℃, can be set at will</p> <p>4. Temperature control accuracy: ±1 ℃</p> <p>5. Temperature display mode: LCD</p> <p>6. Heating power: 1600 W</p> <p>7. Time controlling range: 1 minute~24 hours, can be setted at will</p> <p>8. Sample testing positions: Four positions</p> <p>9. Sample quantity at one test: 4 pieces~12 pieces</p> <p>10. Ambient temperature: Room temperature~35 ℃</p> <p>11. Relative humidity: ≤85%</p> <p>12. Maximum power consumption: 1800 W</p> <p>13. Dimension: 440mm×330mm×560mm</p>	
Mechanical Impurity	25	Petroleum Products and Additives Mechanical Impurity Tester	SYD-511B	ASTM D4807 GB/T511	<p>1. This instrument is composed of glass vessels, water bath, funnel, suction pump, motor and digital temperature controller. It has features such as small size, light weight, rapid heating rate and easy installation.</p> <p>2. The temperature control funnel is small and light. It can save operation time and solvent.</p> <p>3. Desktop structure. Simple design. Easy to use.</p>	<p>1. Power supply: AC 220V±10%, 50 Hz</p> <p>2. Heating power for water bath: 1000 W</p> <p>3. Temperature control range for water bath: Room temperature~90 ℃, adjustable</p> <p>4. Bath temperature display: Digitally displayed by LED</p> <p>5. Temperature control accuracy for water bath: ±1 ℃</p> <p>6. Temperature control range for funnel: Room temperature~90 ℃, adjustable</p> <p>7. Funnel temperature display: Digitally displayed by LED</p> <p>8. Temperature control accuracy for funnel: ±2 ℃</p> <p>9. Size: (1) Control case: 390 mm× 260 mm× 590 mm (2) Water bath: 390 mm× 290 mm× 370 mm</p> <p>10. Ambient temperature: ≤35 ℃</p> <p>11. Relative humidity: ≤85%</p> <p>12. Maximum power consumption: 1200 W</p>	

Ash Content	26	Petroleum Products Ash Content Tester(Seperately display)	SYD-508	ASTM D482 GB/T508	<ol style="list-style-type: none"> The instrument is composed of a box-type heating furnace, a temperature control stand and an electric heating plate. It is small size and needs less land. The box-type furnace adopts all-in-one structure. Special fire-resistant material and heating components. The heating time is short and it has a long lifetime. An adjustable LED temperature controller is equipped in the control stand. The overshoot is small and temperature control is stable. The size of heating plate is $\Phi 85\text{mm}$. Small size and good durability. 	<ol style="list-style-type: none"> Box-type heating furnace <ol style="list-style-type: none"> Power supply: AC220V\pm10%, 50 Hz Rated power: 2.5 kW Rated temperature: 1000 $^{\circ}\text{C}$ Temperature rising time for empty furnace: \leq50 min Power consumption for empty furnace: \leq800W Heat savings: \leq5kW.h Furnace temperature uniformity: \leq15$^{\circ}\text{C}$ Thermocouple: WRN-010 Size of furnace chamber: 200mm\times120mm\times80mm Dimension: 575mm\times3850mm\times480mm Temperature control stand <ol style="list-style-type: none"> Rated controllable power: 5000W Power supply: AC(220\pm10%)V, 50Hz Maximum control temperature: 1200 $^{\circ}\text{C}$ Temperature controller: DTW2001 Thermocouple: WRN-010 Dimension: 500mm\times300mm\times235mm Electric heating plate <ol style="list-style-type: none"> Rated power: 1500W Power supply: AC(220\pm10%)V, 50Hz Rated temperature: 400 $^{\circ}\text{C}$ Heating power: (1~6) grades, continuously adjustable. Diameter of heating plate:Φ85mm Dimension: 280mm\times250mm\times90mm 	
Carbon Residue	27	Carbon Residue Tester(Electric Furnace Method)	SYD-30011	ASTM D524 SH/T 0170	<ol style="list-style-type: none"> The instrument adopts desktop configuration. The heating furnace and controller are assembled to all-in-one machine. Small dimension and easy to use. The max temperature of heating furnace can reach 520$^{\circ}\text{C}$. It adopts digital temperature controller. The temperature control accuracy can reach $\pm 5^{\circ}\text{C}$. It can do four sample determinations concurrently. The test efficiency is high. 	<ol style="list-style-type: none"> Power supply: AC (220\pm10%) V, 50Hz Heating mode: Electric furnace Heating power: 1150W (230W\times5) in total Temp. Control range: (0~520)$^{\circ}\text{C}$ Temp. Control accuracy: $\pm 5^{\circ}\text{C}$ Test furnace: One furnace with four holes Ambient temperature: Room temperature\sim35$^{\circ}\text{C}$ Relative humidity: \leq85% Maximum power consumption: 1300W Dimension: 350mm\times360mm\times365mm 	
	28	Petroleum Products Carbon Residue Tester(Micromethod)	SYD-17144	ASTM D4530 GB/T17144	<ol style="list-style-type: none"> This instrument adopts all-in-one structure. It consists of two parts: electrical control chamber and high temperature heating furnace. The design is simple and reasonable. It adopts single chip machine system. The instrument controls the whole procedures automatically according to program preset. The screen adopts all English interface. Operator can do determination by prompts on the screen even no need to read the operation manual. Easy to operate. It controls the flow rate of nitrogen, temperature heating rate and preset temperature automatically. Easy to adjust the flow rate. The heating rate is accurate and temperature control is stable. It collects test data and calculates results automatically. It can print and save the data according to customer's requirements. The measurement range of this instrument is 0.10% (m/m) \sim30.0% (m/m). The test result is equivalent to Conradson method if the carbon residue is higher than 0.10% (m/m). The instrument can also be used to determine the petroleum products composed of distillate oils which carbon residue is lower than 0.10% (m/m). But the specimen shall be sampling to 10% (V/V) distillation residue according to GB/T6536 firstly. It equips a electric balance to achieve the automation of sample weighing and data input. 	<ol style="list-style-type: none"> Power supply: AC (220\pm10%) V, 50Hz Maximum power consumption: 1600W Temperature of coke chamber: 500 $^{\circ}\text{C}$ Temperature control accuracy: $\pm 2^{\circ}\text{C}$ Heating power: 1500W Ambient temperature: 5$^{\circ}\text{C}$~35$^{\circ}\text{C}$ Relative humidity: \leq85% Dimension: 520mm\times360mm\times525mm 	

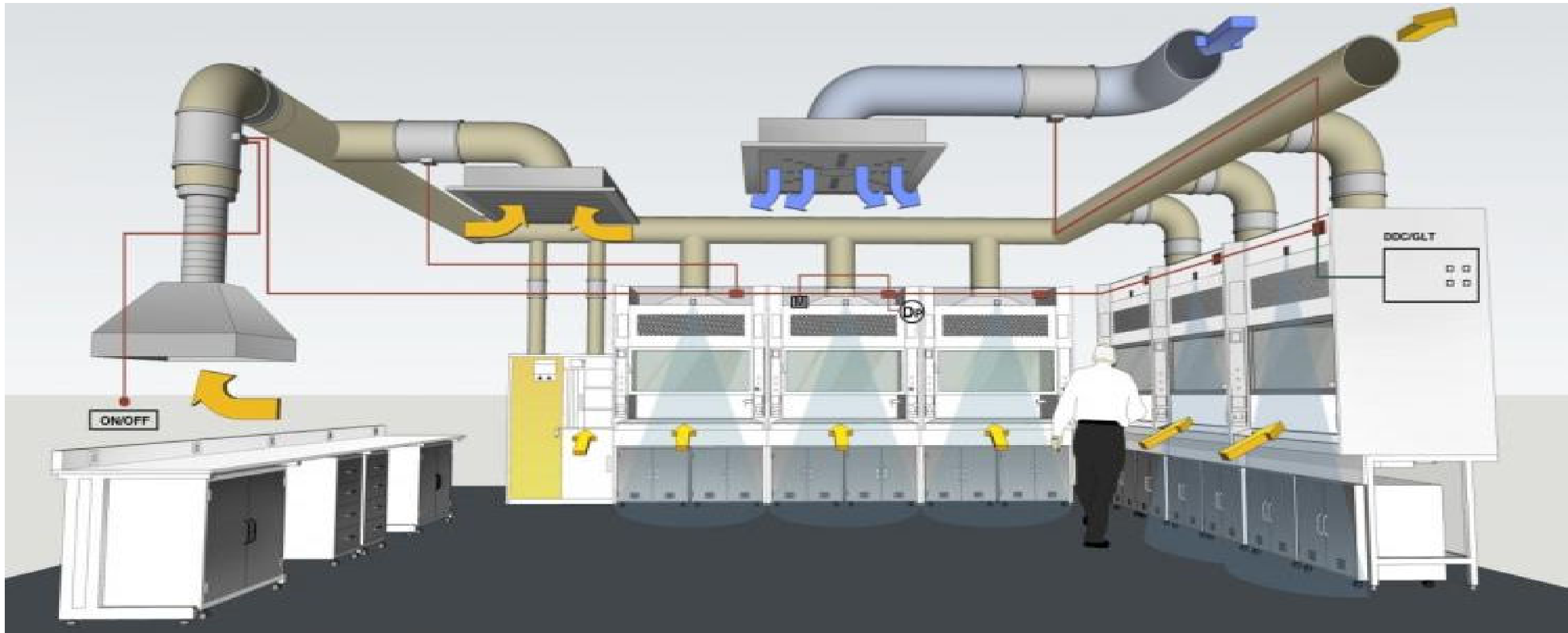
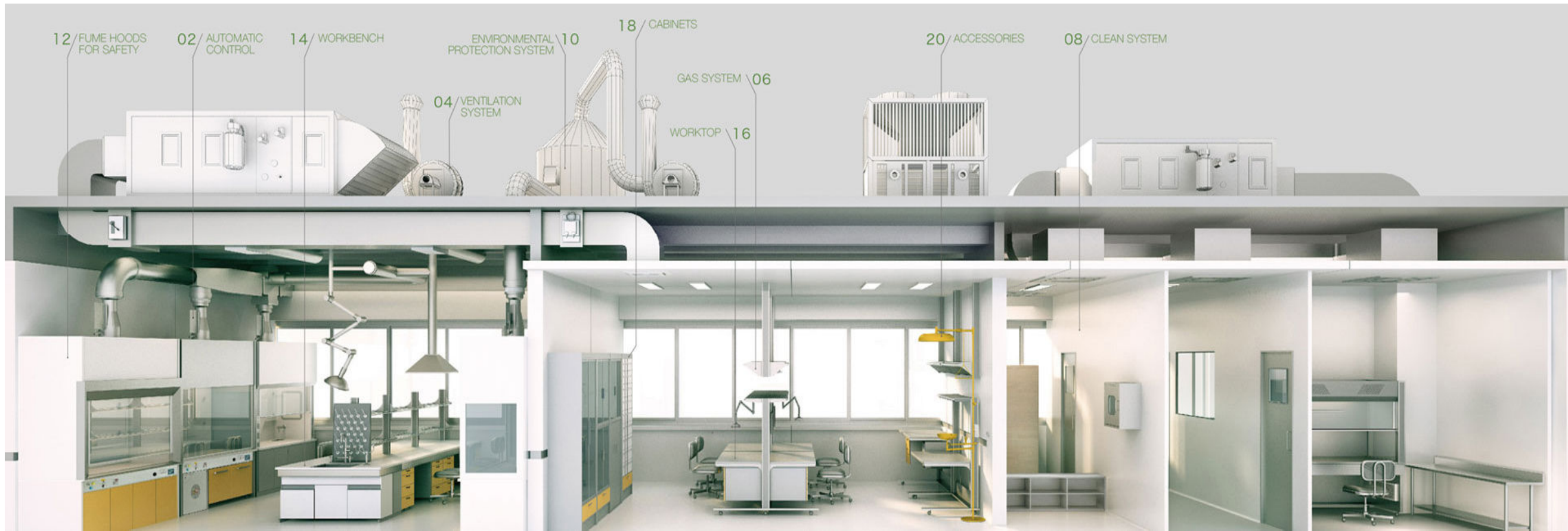
Apparent Viscosity	29	Automatic Engine Oils Apparent Viscosity Tester	SYD-6538	ASTM D5293 GB/T 6538	<ol style="list-style-type: none"> 1.With 8 inch color LCD touch display to realize the operation. 2.With the embedded control technology and two optional operating interface:Chinese or English version. 3.It adopts the imported compressor,the cascade refrigeration technology with the fast cooling speed. 4.It uses the imported motor drive,the improved rotor and low torque test mode,high measurement precision and good repeatability. 5.With the rotary encoder to detect the rotate speed and control current automatically to reduce the manual operating error. 6.The parameters of all standard oils can be editable and stored,it can save the 100 groups of history test data and it's convenient to check and reuse. 7.Configuration with miniprinter to automatically print the report after the test. 	<ol style="list-style-type: none"> 1.Cold bath temperature control range:Ambiant ~-60℃ 2.Cold bath temperature control accuracy: ±0.5℃ 3.Stator temperature control accuracy: ±0.05℃ 4.Viscosity measurement range: 1500mPa*s ~27000mPa*s 5.Environment temperature: 10℃~40℃ 6.Relative humidity: ≤85% 7.Power supply: AC(220±10%)V,50Hz 8.Total power consumption:Less 2500W 9.Dimension: 745 (with the waste liquid collection bottle 875) mm×520mm×480mm(L*W*H) 	
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II.Lubricating Oil Laboratory Design Scheme

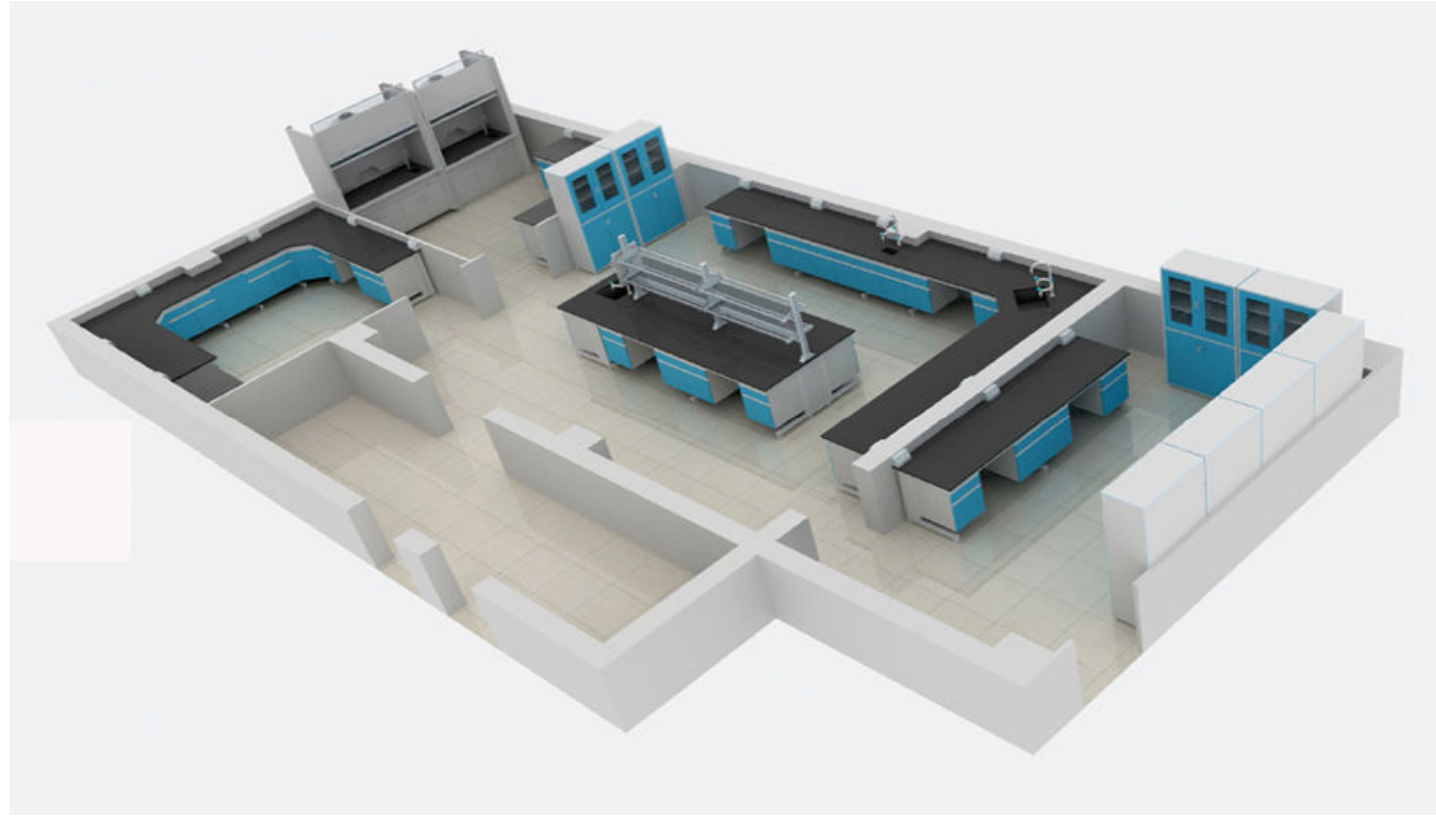




Laboratory ventilation and exhaust gas treatment system design



Lab demo



III.A Part of Changji's Successful Projects List

1. Wenzhou Xinda Transportation Engineering Test Co. LTD Project
2. Zhejiang Highway Technicians College Test Center
3. Zhejiang Jiaoke Engineering Inspection Co. LTD Projects
4. Nigerian Laboratory Test Center Project
5. Thailand Khon Kaen Railway Project
6. Class A Laboratory of Jiangxi Province Highway Engineering Testing Center
7. Class A Laboratory Project of Guangxi Communication Engineering Test Co. Ltd
8. Changji's Equipments Used by China Transport Departments
9. Bangladesh Oil Refinery Project
10. Pakistan Highway Test Program
11. Hongkong University of Science and Technology Test Center Project
12. Guangxi University Test Center Project
13. University of Jinan
14. Zhengzhou University

15. Shangdong University
16. Tongji University
17. Suzhou University of Science and Technology
18. Inner Mongolia Agricultural University
19. Inner Mongolia University of Technology
20. China University of Petroleum
21. Northeast Dianli University
22. Luoyang University of Science and Technology
23. Lanzhou University of Technology

Shanghai Changji Geological Instrument Co., Ltd



Yangtzi River Second Bridge



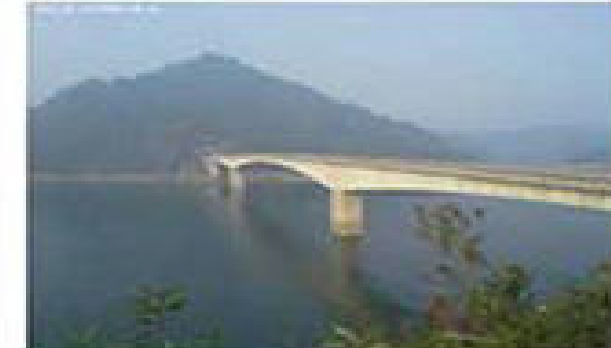
Hangzhou Bay Cross-Sea Bridge



Jiangyin Bridge



Runyang Bridge



Shanghai East Sea Bridge



Magnetic Levitation

Sutong Bridge



Shanghai Inner Ring Road

Hongkong-Zhuhai-Macao Bridge



Shanghai Urban Planning Exhibition Center

Thousand Island Lake Xin'an Bridge



Grand Gateway Plaza



Shanghai International Conference Center



Shanghai First Department Store



Zhengzhou International Convention and Exhibition Center



Wenzhou Tallest Building

A Part of Changji's Partners



China Sinopec



Sinopec Shanghai Petrochemical Company Limited



China National Petroleum Corporation



Northeastern University



Xiamen University



Xi'an Shiyou University



China National Offshore Oil Corporation



Shell China



China Railway Group Limited



China Academy of Building Research



China Communication Construction



Zi Jin Mining



Tongji University



Zhengzhou University



Shanghai Maritime University



South China University of Technology



Pan Jin North Asphalt



Liao Ning Shi Hua University



Oriental Yuhong



JSTI



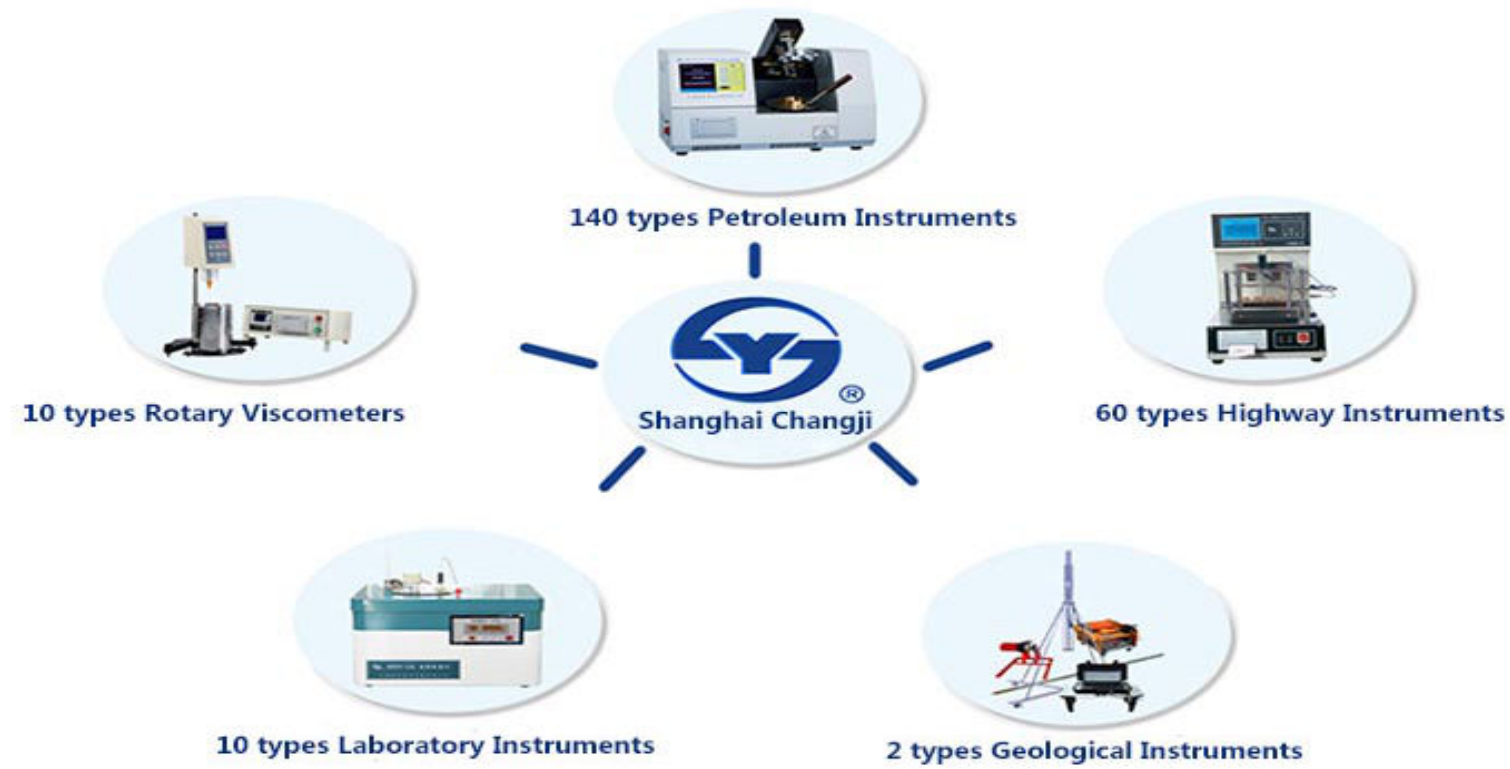
Institute of Urban Environment

IV. Shanghai Changji History Development



Shanghai Changji Geological Instrument Co.,Ltd is established in 1998,the former is Shanghai Geological Instrument Factory under the Ministry of the National Geology and Mineral Resource.

Changji has four major series and more than 200 types products: more 140 types petroleum instruments,more 60 types highway instruments,each 10 types for laboratory instruments,Rotary viscosity instruments and geological instruments.Also we develop and produce more than 30 kinds of non-standard instruments according to the clients' special requirements each year.It depends on the complete category products,strong matching capacity and fast development ability,its products are not only widely used in China,but also sold and welcomed in 20 countries.



The highway instrument three major index:penetrometer,ductility tester and softening point tester.Changji's products are with the advanced technical features and fit the ISO, ASTM, IP, GB and other international standards.Recent years,we develop smart instruments with the communication port to realize the remote control, transmitting test parameters and networking management of Laboratory equipments.

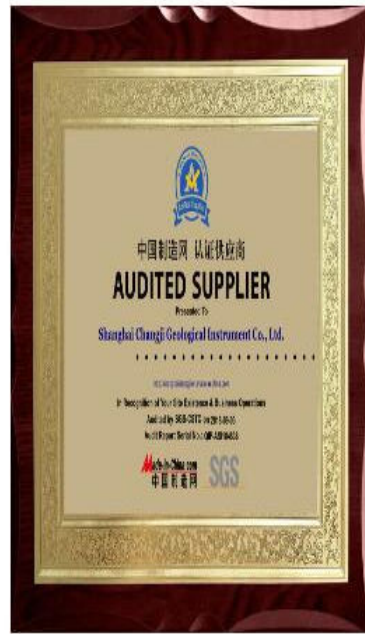


Changji pays more attentions to develop and invest in the technology innovation. So far, we have gotten the China National Invention Patent 1, the No. ZL 2005 1 0024291.9; Utility Model Patent 2, the No. ZL 2004 2 0023460.8 and ZL 2013 2 0365490.6. Other two national innovation patents and two utility model patents are in the process of the official investigation. Changji's products become more and more stabilization and elegant after many years development and research. So selecting Changji, you choose the precipitation of time and satisfaction.

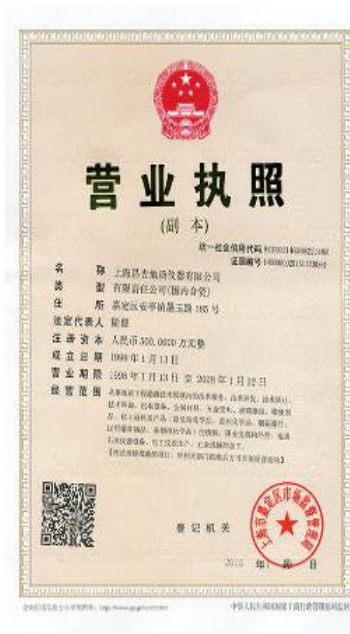
Shanghai Changji's Certificates



STATEMENT OF SGS QUALIFIED SUPPLIERS



SGS Certificate



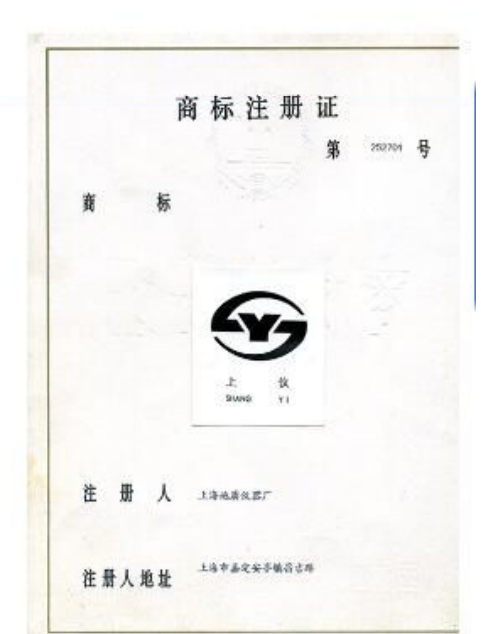
Business License



ISO Certificate(English Version)



ISO Certificate(Chinese Version)



Trademark Registration Certificate



Time Limit Of The Trademark



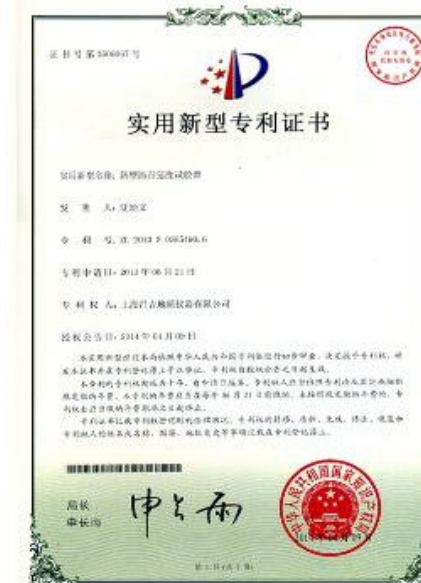
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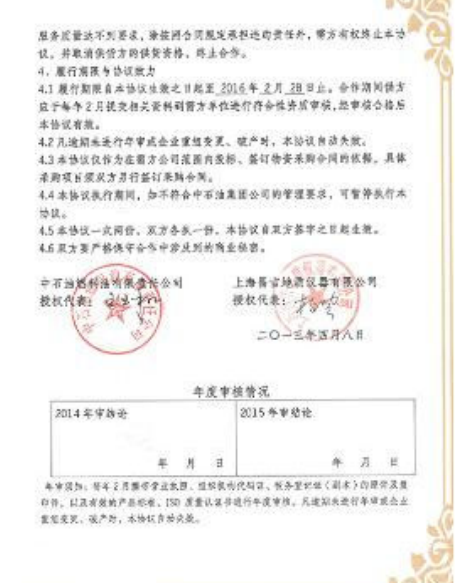
Trademark Registration Certificate



Certificate of Invention Patent (Concrete Tank Elevation)



Certificate of Invention Patent (Asphalt Ductility Tester)



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