I.Lubricating Oil Testing Instruments Recommendation

Test Project	No.	Name	ltem	Standard	Characteristics	Technical Parameters	Picture
Flash Point		Cleveland Open- Cup Flash Point Tester	SYD-3536	ASTM D 92 GB/T3536	 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. 	 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) 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	 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. 	diameter is 3.2mm∼4.8mm 8. Ambient temperature: (-10∼50)℃	
	3	Automatic Cleveland Open- Cup Flash Point Tester	SYD-3536A	ASTM D 92 GB/T3536	 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. 	 Power supply: AC220(-10%~+5%)V, 50Hz Flash point determination: Range: Ambient to 400 °C Repeatability: ≤ 8°CReproducibility: ≤17°CAccuracy: 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 	Fig 21: SDRIP BRECKERSE Fig 21: SDR
Kinematic Viscosity	4	Petroleum Products Kinematic Viscometer	SYD-265B	ASTM D445 GB/T 265	 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. 	 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 	

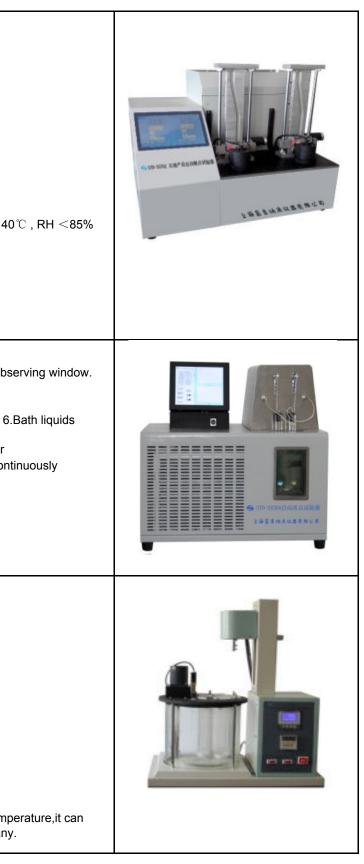
5	Petroleum Products Kinematic Viscometer	SYD-265C	ASTM D445 GB/T 265	 This instrument adopts LCD temperature controller, having features of rapid temperature control, fast response, small overshoot. The temperature control accuracy can reach ±0.1 °C. The instrument adopts hard glass bath and heat preservation shell(double shell structure). The heat preservation property is good. Easy to observe the sample. The instrument adopts desktop and all-in-one design. The integrality is good. Convenient to operate. The instrument adopts electric stirring device. The temperature in water bath is uniform. 	 Power supply: AC(220±10%)V, 50Hz±5% Heating power: 1600W Stirring motor: 6W, 1200RPM Temperature control range: Ambient to 100 °C Temperature control accuracy: ±0.1 °C Constant temperature bath: 20L,double shell structure Working environment: Ambient temperature: room ten Relative humidity: ≤85% Temperature sensor: RTD, Pt100 Maximum power consumption: 1800W Capillary viscometer tubes (Pinkevitch viscometer): 7 inner diameter for each: 0.6mm, 0.8mm, 1.0mm, 1.2mm, 1 2.5mm Dimension: 530mm×400mm×670mm
6	Petroleum Products Kinematic Viscometer	SYD-265H	ASTM D445 GB/T 265	 Single chip microcomputer and colored LCD technology. High intelligence and automation. Intelligent signal sampling, data measuring, parameters operating, and result output. All the operations are finished automatically.English man-machine conversation interface. Easy to operate. 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. It can do one test alone or doing two tests at one time by setting the parameters.High efficiency. 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. It adopts desktop and all-in-one machine design. Convenient to use. 	 Power supply: AC(220±10%)V, 50Hz Heating power: 1700W Temperature range: Ambient to 100.0 °C Temperature control accuracy: ±0.01 °C Bath capacity: 20L Timing range: 0.0s~9999.9s Timing accuracy: ±0.05% within 60min Amount of capillary viscometer tubes: 4 capillary visco Stirring motor: 6 W, 1200 RPM Working condition: (Ambient temperature-10) °C~35° Temperature sensor: RTD, Pt100 Maximum power consumption: 1800W Capillary viscometers tubes(Pinkevitch viscometer): 7 total. The inner diameter for each: 0.6mm, 0.8mm, 1.0mm, 2.0mm, 2.5mm Dimension: 530mm×400mm×670mm
7	Automatic Kinematic Viscometer	SYD-265H-1	ASTM D445 GB/T 265	 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. Using the new type temperature sensor and calculation way,the resolution can reach 0.001°C,accuracy is ±0.04°C. 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. Automatical test process includes constant temperature,oil sample updraughting,detecting,calculating,viscometer cleanout,fully automatically drying,and instore 100 detecting records. 5.Using one or two types cleanout fluids to wash,make sure the viscometer clean before drying,the cleanout time can be set freedom. With the viscometer calibration program [JJG155] and with the viscosity index calculator. 	1,Temperature sensor:Pt1000 2,Temperature range: 15°C~120°C 3,Temperature resolution:0.001°C 4,Temperature control accuracy: ±0.04°C 5,Timing accuracy:±0.1s,resolution ratio 0.01s 6,Sample quantity:2 pcs 7,Usage environment:temperature 15°C~35°C,humidity le 8,Power supply:AC220V ±10% 50Hz±1Hz 9,Total consumption:≤2100W 10,Outline dimension:550mm×600mm×1350mm(L×W×H) 11,Net weight: 125kg Note:The instrument with standard configuration 4 pces U capillary tubes, The inner diameters for each is 0.8mm,1.0 1.5mm,If the user need other kinds of viscometer,pls infor customizing.
8	Low Temperature Kinematic Viscometer	SYD-265G	ASTM D445 GB/T 265	 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 °C. It is equipped with lighting device for operator observing the indication more clearly. It can do determination for two samples at a time. The work efficiency is high. It adopts a floor type of all-in-one machine. Easy to move. It is equipped with electric stirrer to make the temperature in bath uniform. 	 Power supply: AC 220V±10%, 50 Hz Heating device: Electric heater, 600 W Refrigeration unit: Double refrigeration compressors Stirring motor: 6 W, 1200 RPM Temperature range: Ambient to 100.0 °C Temperature control accuracy: ±0.1 °C Constant temperature bath: 5.8 L, stainless steel. Ambient temperature: ≤30 °C Relative humidity: ≤85% Temperature sensor: RTD, Pt100 Illumination: 220 V electricity-saving lamp. Capillary viscometer tubes(Pinkevitch viscometer): 7 p The diameters for each is 0.6, 0.8, 1.0, 1.2, 1.5, 2.0, 2.5 m Maximum power consumption: 1700 W Dimension: 530mm×460mm×870mm



	9	Kinematic viscosity / Viscosity index Tester	SYD-265B-3	ASTM D445 GB/T 265 GB/T 1995	 2. Micro-processor control and color LCD display. Chinese-English bilingual menu. GUI touch screen. Easy to operate. 3. 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. 4. With the dual endinders At the same time the kinematic viscosity could be done 	 1.Capacity of bath: Ф240mm×280mm 2.Temperature range: Ambient to 150 °C 3.Temperature resolution: 0.01 °C 4.Temperature control precision: ±0.05 °C 5.Temperature sensor: PT100,Industrial platinum resistor 6. Timing precision: ±0.1s 7. Display: 5.6 inch colored LCD(Touch display) 8. Sample amount: 2 samples 9. Power supply: AC(220±10%)V, 50Hz±1Hz 10. Maximum power consumption: ≤750W 11. Working environment: Ambient temp.: (15~35) °C ,F 12. Dimension: 870mm×440mm×550mm 13. Net weight: 33kg
Vacuum Distillation Apparatus	10	Vacuum Distillation Apparatus (Digital Display)	SYD-0165A	ASTM D1160 SH/T O165	 I his 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 	 Power supply: AC(220±10%)V, 50Hz Heating power: Heater for distillation flask: 1000W, H receiver: 350W Heating furnace of distillation flask: (0~1000)W, adjust Temperature control point of air bath of receiver: Ambie adjustable Temperature sensor of air bath: Pt100,RTD Temperature control mode: Digital temperature controll 7. 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: 13. Dimension: 580mm×230mm×605mm
	11	Semi-automatic Vacuum Distillation Apparatus (Touch Screen)	SYD-0165B	ASTM D1160 SH/T 0165	 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. 	 Power supply: AC(220±10%)V, 50Hz. Heating furnace of distillation flask: (0~1000)W, adjuding the state of the
Solidifying Point	12	Solidifying Point Tester	SYD-510G	ASTM D852 GB/T510	 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. 	 Power supply: AC (220±10%), 50Hz Working chamber: Two test baths in one chamber. Th 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	screen.	 Lowest test pour point: - 56 °C Temperature control range: -69 °C ~+48 °C Bath temperature accuracy: ±0.5 °C Cooling rate:from 48 °C to -70 °C ≤15mins Period of every 17 °C dropped: ≤150s Halt interval time: >30min Test holes: 2 Power supply: AC220V±10%, 50Hz±1 Maximum power consumption: 1800W Working environment: Ambient temperature 5 °C to 40 Dimension: 700mm×550mm×640mm(L*W*H) Net weight: 106Kg
Freezing Point	14	Automatic Freezing Point Tester	SYD-2430A	ASTM D1177 D2386 GB/T 2430 SH/T 0090	 1.The cold bath is made of stainless steel,double glass observating window,with the advanced temperature control technology,the lowest tempeature 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. 2.Automatically judge the freezing point temperature. 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. 4.It's the floor stand structure, the work table-board is made of stainless steel, concise design, nice appearance, convenient usage, fully furnished. 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. 	 Power supply: AC 220 V±10%, 50 Hz; Working bath: stainless steel,double vacuum glass obse Freezing point range:-54 °C~2 °C. Cold bath measurement temperature: -70 °C~20 °C Temperature controlling accuracy: ±0.5 °C Temperature controlling accuracy: ±0.5 °C Stirring: electric stirring.the power is 6W,1200r/min. Refrigerator system:imported refrigerator compressor Sample stirring: mechanical stirring is 0 ~120r/min,contiadjustable Ambient temperature: ≤30 °C. Relative humidity: ≤85% Maximum power consumption: 2000 W Dimension: 560mm×550mm×810mm
Demulsibility Characteristics	15	Demulsibility Characteristics Tester(Desktop structure)	SYD-7305	ASTM D1401 GB/T7305	 This instrument adopts small bath and desktop structure. It is easy to operate and good-looking. It adopts electric motor to stir automatically. The temperature is uniform. It can do determination for 5 samples one by one. The lifting of stirring device is convenient. The stirring paddle has good concentricity with cylinders. No tremble or touching the cylinder wall. 	1. Power supply: $AC(220\pm10\%)V$, $50Hz$ 2. Temperature range: $(Room temp. ~99.9)^{\circ}C$ 3. Temperature control accuracy: $\pm 1^{\circ}C$ 4. Resolution: $0.1^{\circ}C$ 5. Temperature display: Digital 6. Timing range: $1s \sim 9m$ 59s 7. Timing set: Dial control 8. Time display: Digital 9. Stirring rate: $(1500\pm15)r/min$ 10.Heating power: $1000W$ 11.Ambient temperature: $(Room temp. ~35)^{\circ}C$ 12.Relative humidity: $\leq 85\%$ 13.Maximum Power consumption: $1200W$ 14.Dimension: $500mm \times 340mm \times 720mm$ Note: If the required temperature is lower than room temper equip ZL-1 portable cooler manufactured by our company.



Foaming Characteristic	16	Lubricating Oil Foaming Characteristic Tester		ASTM D892 GB/T12579	 The instrument adopts all-in-one structure. It includes three parts: low temperature test part and it's control, high temperature test part and it's 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 ca be corrected by this function. The instrument equips an automatic timing alarm. When it reach 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. 	1. Power supply: $AC(220\pm10\%)V$, $50Hz$ 2. Constant temperature heating power: $650W$ 3. Auxiliary heating power: $1000W$ 4. Cooling power: $500W$ 5. Air flow rate: $(94\pm5)ml/min,adjustable$ 6. Temperature control range for high temperature bath : $(Room temp.~99.9)$ °C 7. Temperature control range for low temperature bath : $(5\sim99.9)$ °C 8. Temperature control accuracy: ±0.5 °C 9. Timer: 5min and 10min, accurate to second 10.Timing accuracy: $0.01\%+0.05s$ (20 °C) 11. Ambient temperature: $(-10\sim+40)$ °C 12. Relative humidity: $\leq 85\%$ 13. Maximum power consumption: 2700W 14. Dimension: Main unit: $690mm \times 460mm \times 700mm$ Cooler: $400mm \times 450mm \times 300mm$	<image/>
Trace Water Content	17	Automatical Trace Water Content Tester(Coulometri c Karl Fischer)			 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 	 Amount and precision of electrolyzed water: 1) 10ug~1000ug, ±2ug >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	 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 intuitionally. The temperature control is reasonable. It can do parallel test for two samples. The working efficiency is high. 	 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 Note: we can customize the electric jacket model for none naked fire test as customer's need 	
Acid Number	19	Petroleum Products Acid Number Tester(Potentiome tric Titration)	SYD-264B	ASTM D664 GB/T264 GB7599 GB/T7304	 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. Automatical fluid infusion, automatical definite value to add liquid. 	 1.Acid number measurement range: ≥0.05 mgKOH/g 2.Potential measurement range: (0~1800.0) mV 3.Burette volume: 10mL 4.Minimum titration volume: 0.001mL 5.Burette precision: ±0.1%F•S 6.Precision: Fit or above the relative standards 7.Power supply: AC(220±11)V,50±1Hz 8.Environment temperature: 5°C~35°C 9.Relative humidity: Less 80% 10.Outline dimension: About 350mm×280mm×178mm (L×W×H、Without PC) 11.Net weight: Main unit 14Kg 	

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Oxidation Stability	20	Automatic Lubricating Oils Oxidation Stability Tester (Rotating oxygen bomb method)	SYD-0193	ASTM D2272 SH/T 0193	 This instrument is fully designed as per standard SH/T0193. It can automatically determine pressure, record data, calculate oxidation time and finish the determination. The test procedures can be done automatically. No need for human interference. The test precision is high. The test curves and results will be shown on the screen and can be restored and printed if needed. 	 Power supply: AC220V±10% Heating tube power: 2500W Range for pressure sensor: (0~1.6)MPa, accuracy: Temperature control range for oil bath: Room temperatic continuously adjustable.150.0°C in common use. Temperature control accuracy: ±0.1°C Test sample: Two-bomb design, can do two samples a Convenient to do parallel test. Rotation speed: (100±5)r/min Included angle between oxygen bomb and water level: Volume of oil bath: 30L Dimension: 550mm×800mm×1000mm Net weight: About 45Kg
	21	Automatic Lubricating Oils Oxidation Stability Tester	SYD-0193B		 All-in-one design instrument, high level of integration, touch screen, no external computer and keyboard etc. Metal bath design, It eliminate both the lampblack harm to operator and environmental pollution, also simplify the operation. Double holes design, it can test 2 kinds of samples at same time, and is more convenient for operator to make the parallel test. 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. 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. With the cold fan system to shorten the time interval of continuous tests. With the decompression system, it's convenient to adjust the needed pressure value of the air source, also convenient to inflate and deflate. 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. 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. 	 1.Bath temperature control point: 140°C,150°C 2.Temperature accuracy: ±0.1°C 3.Pressure measurement range: (0~1.6) MPa 4.Pressure measurement accuracy: ±2‰ 5.Work mode:double metal bath,2 kinds of samples tested 1 type sample tested 6.Rotation speed: (100±5)r/min 7.Included angle between oxygen bomb and water level: 8.Power supply: AC (220±10%) V,50Hz 9.Total power consumption: <1500W 10.Environment temperature: -10°C ~40°C 11.Relative humidity: ≤85% 12.Heating tube power: 2500W 13.Dimension: 500mm×370mm×540mm(L*W*H) 14.Net weight: About 25Kg
	22	Lubricating Oil Evaporating Loss Tester(Noack A method)	SYD-0059A	ASTM D5800 NB/SH/T 0059	 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. Adopting the heating device of metal bath,safety and environmental protection. With the imported precision differential pressure gauge and precision needle valve pressure regulating system,ensure the accuracy of test pressure. The bath with wood alloy has the excellent property of heat conduction. Evaporation crucible fit the ASTM and NB/SH/T 0059 standard. Equipped with the professional vacuum draw system and buffer device,ensure the stability and reliability in the process of suction. With the singlechip and high precision temperature sensor,temperature control is accuracy and high precision. 	 1.Temperature control range:room temperature to 250 °C 2.Temperature control accuracy: ±0.5 °C 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 °C 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) 320 mm×280mm×500mm auxiliary machinery(stable pressure suction section) 405 mm (L*W*H,without vacuum pump)



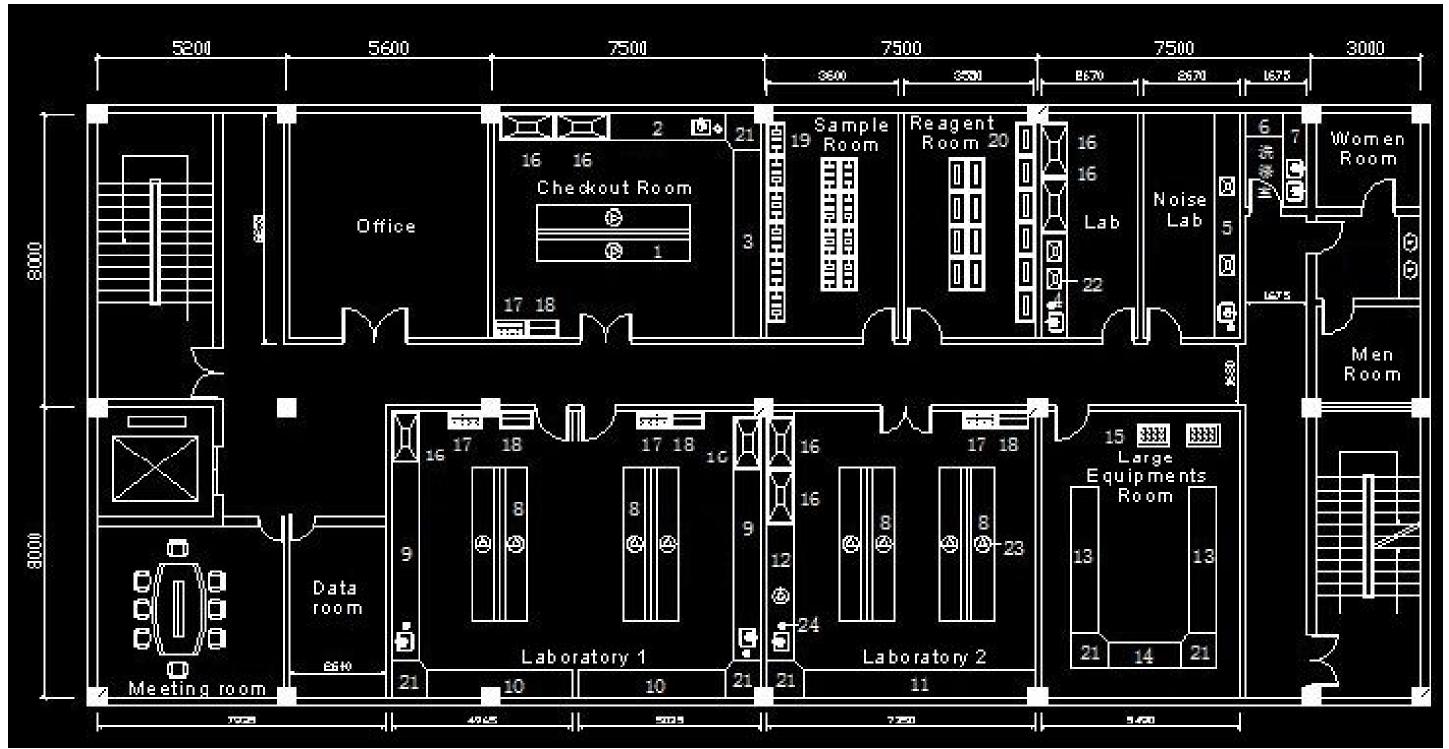
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Sulfur-in-Oil	23	X-ray Fluorescence Sulfur-in-Oil Analyzer	SVD_170/0	ASTM D4294 GB/T 17040	 (1) With electrical, mechanical and microprocessor integration design, so it is compact and beautiful; (2) It can determine various products and in a wide measurement range. It is rapid for analysis and it only need little standard sample. (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). (4) Large LCD for display; Man-machine conversation system; Sound alarm for operation mistake; (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. (6) Equipped with a RS232 serial port, it can connect with any computer or web system. (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. (8) The sample holder is installed on a slide rail, so it can avoid any contamination to detection system. (9) It can save large quantity of test data. You can browse test data and calibration curves at any time. (10) It uses a thermal printer, so it is easy to replace printing paper. (11) Tightly protection measures to avoid oil leakage. The sample coll 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. The sample cell can enter into the detection system. (11) Its safe X-ray protection measures can keep people from injury of X-ray radiation. 	 (1) Measuring range: 20ppm to 5% (2) Repeatability (r): <0.02894 (X+0.1691) (3) Reproducibility (R): <0.1215(X+0.5555) (4) Detection limit: 7 ppm (5) Oil sample quantity: 2.5 ml (it is equal to sample depth of 4.5 mm) (6) Measurement time: it can preset 60, 120, 240, 300, and 600 s at random (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. (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. (9) Working condition: Ambient temperature: 5~40°C Relative humidity: ≤85% (30°C) (10) Power supply: AC 220V±20V, 50 Hz; Rated power: 30 W (11) Dimension and weight: 468mm×368mm×136mm; 13 kg 	
Copper Strip Corrosion	24	Copper Strip Corrosion Tester	SYD-5096A	ASTM D130 GB/T 5096	 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. 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. The instrument equips a standard color board imported from USA. It can meet requirements of test method. 	1. Power supply: AC 220 V±10%, 50 Hz 2. Temperature sensor: RTD, Pt100 3. Temperature range: Ambient to 100 °C,can be set at will 4. Temperature control accuracy: ±1 °C 5. Temperature display mode: LCD 6. Heating power: 1600 W 7. Time controlling range: 1 minute \sim 24 hours,can be setted at will 8. Sample testing positions: Four positions 9. Sample quantity at one test: 4 pieces \sim 12 pieces 10. Ambient temperature: Room temperature \sim 35 °C 11. Relative humidity: \leq 85% 12. Maximum power consumption: 1800 W 13. Dimension: 440mm×330mm×560mm	
Mechanical Impurity	25	Petroleum Products and Additives Mechanical Impurity Tester	SYD-511B	ASTM D4807 GB/T511	 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. The temperature control funnel is small and light. It can save operation time and solvent. Desktop structure. Simple design. Easy to use. 	 Power supply: AC 220V±10%, 50 Hz Heating power for water bath: 1000 W Temperature control range for water bath: Room temperature~90 °C, adjustable Bath temperature display: Digitally displayed by LED Temperature control accuracy for water bath:±1 °C Temperature control range for funnel: Room temperature~90 °C, adjustable Funnel temperature display:Digitally displayed by LED Temperature control accuracy for funnel: ±2 °C Size: Control case: 390 mm× 260 mm× 590 mm Water bath: 390 mm× 290 mm× 370 mm Ambient temperature: ≤35 °C Relative humidity: ≤85% Maximum power consumption: 1200 W 	

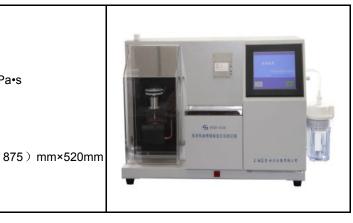
Ash Content	26	Petroleum Products Ash Content Tester(Seperately display)	SYD-508	ASTM D482 GB/T508	 The instrument is composed of a box-type heating furnace, a temperature control stand and an electric heating plate. It is small size and needs less land. The box-type furnace adopts all-in-one structure. 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 \$\Phi85mm\$. Small size and good durability. 	1. Box-type heating furnace (1) Power supply: AC220V \pm 10%, 50 Hz (2) Rated power: 2.5 kW (3) Rated temperature: 1000 °C (4) Temperature rising time for empty furnace: \leq 50 min (5) Power consumption for empty furnace: \leq 800W (6) Heat savings: \leq 5kW.h (7) Furnace temperature uniformity: \leq 15 °C (8) Thermocouple: WRN-010 (9) Size of furnace chamber: 200mm×120mm×80mm (10)Dimension: 575mm×3850mm×480mm 2. Temperature control stand (1) Rated controllable power: 5000W (2) Power supply: AC(220 \pm 10%)V, 50Hz (3) Maximum control temperature: 1200 °C (4) Temperature controller: DTW2001 (5) Thermocouple: WRN-010 (6) Dimension: 500mm×300mm×235mm 3. Electric heating plate (1)Rated power: 1500W (2) Power supply: AC(220 \pm 10%)V, 50Hz (3) Rated temperature: 400 °C (4) Heating power: (1~6) grades, continuously adjustata (5) Diameter of heating plate:Φ85mm (6) Dimension: 280mm×250mm×90mm
Carbon Residue	27	Carbon Residue Tester(Electric Furnace Method)	SYD-30011	ASTM D524 SH/T 0170	 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 °C. It adopts digital temperature controller. The temperature control accuracy can reach ±5 °C. It can do four sample determinations concurrently. The test efficiency is high. 	1. Power supply: AC $(220\pm10\%)$ V, 50Hz 2. Heating mode: Electric furnace 3. Heating power: 1150W $(230W\times5)$ in total 4. Temp. Control range: $(0\sim520)$ °C 5. Temp. Control accuracy: ±5 °C 6. Test furnace: One furnace with four holes 7. Ambient temperature: Room temperature~ 35°C 8. Relative humidity: $\leq 85\%$ 9. Maximum power consumption: 1300W 10. Dimension: 350mm×360mm×365mm
	28	Petroleum Products Carbon Residue Tester(Micrometh od)	SYD-17144	ASTM D4530 GB/T17144	temperature automatically. Easy to adjust the flow rate. The heating rate is accurate and temperature control is stable. 5. It collects test data and calculates results automatically. It can print and save	 Power supply: AC (220±10%) V, 50Hz Maximum power consumption: 1600W Temperature of coke chamber: 500°C Temperature control accuracy: ±2°C Heating power: 1500W Ambient temperature: 5°C~35°C Relative humidity: ≤85% Dimension: 520mm×360mm×525mm

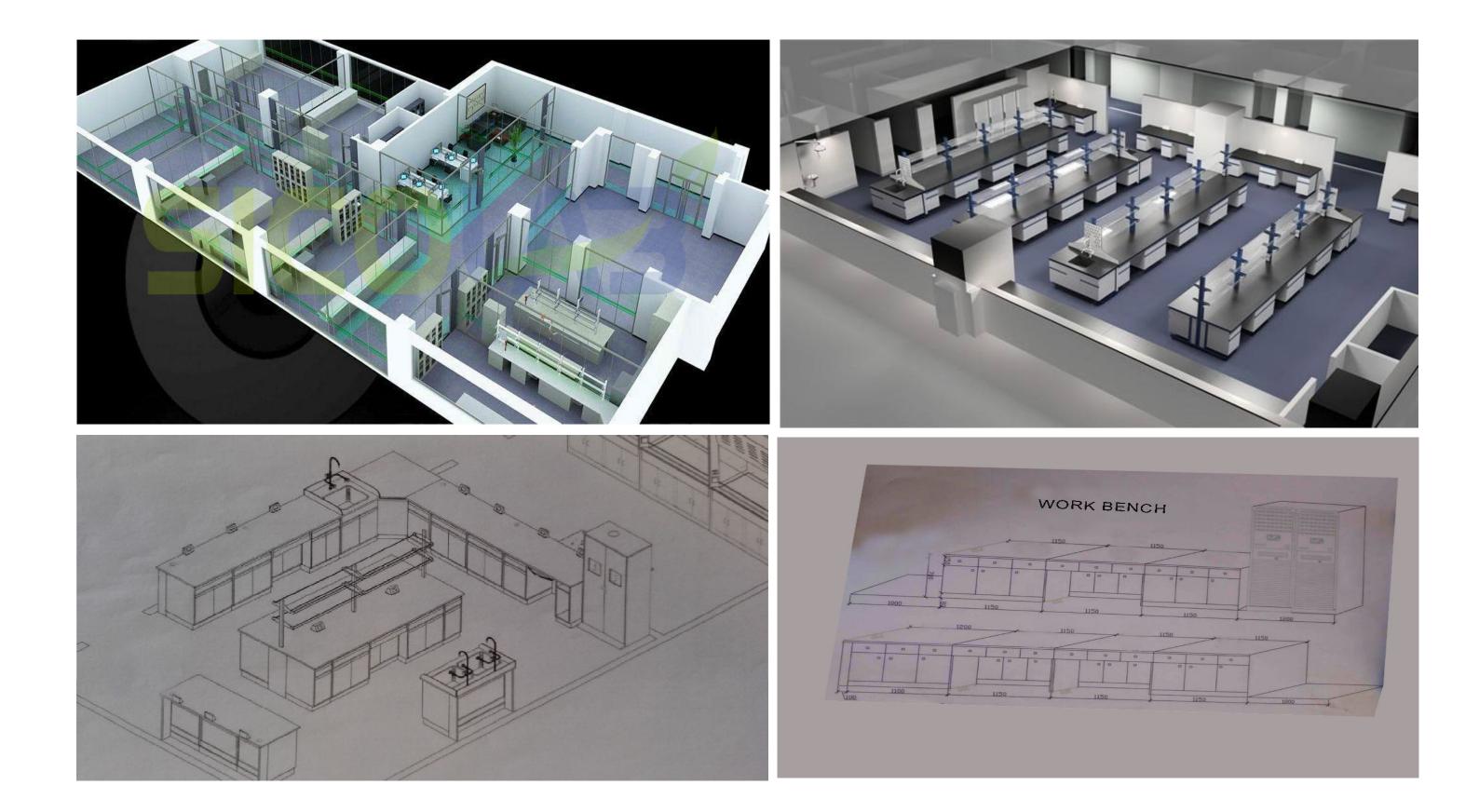


Apparent Viscosity	Automatic Engine 29 Oils Apparent Viscosity Tester	YD-6538 ASTM D5293 GB/T 6538	 3.It adopts the imported compressor, the cascade refrigeration technology with the fast cooling speed. 4.It uses the imported motor drive, the improved rotor and low torque test mode, high measurement 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. 	1.Cold bath temperature control range:Ambiant ~ -60 °C 2.Cold bath temperature control accuracy: ±0.5 °C 3.Stator temperature control accuracy: ±0.05 °C 4.Viscosity measurement range: 1500mPa•s ~ 27000mPa 5.Environment temperature: 10 °C ~ 40 °C 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 8 ×480mm(L*W*H)
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II.Lubiracating Oil Laboratory Design Scheme







Laboratory ventilation and exhaust gas treatment system design

