The Magnetic Field Distribution Automatic Measuring Equipment

USER'S MANUAL

YUXIANG MAGNETIC MATERIALS IND.CO, LTD.
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Function introduction

The magnetic field distribution test system is a multi-function on line inspection equipment, measuring and analyzing the magnetic field distribution on the surface of ring magnet. With independent developed software system, it could test the magnetic field on ring magnet's inner, circumferential and end ring surface. It is especially fit in test of magnet with multi-pole. In sum, it is an equipment with much more perfect function and higher automatic performance.

Part 1：hardware part

A.　　The name and function of each part

This test system consists of a main control cabinet and a testing platform (see figure 1).The main control cabinet includes controlling system、B&H testing instrument (the magnetic field strength and flux testing instrument)、power switch and so on，the main function is testing the operation of procedure, inspecting tested data, testing the operation of testing instrument, analyzing and summarizing the tested data. The testing instrument is an automatic testing apparatus with multi-function, which could move along X、Y axis and whirl on the main axis. Its main task is fulfilling the equipment of the tested magnets and executing the required operation method.

Re the function and name of each part, please refer to figure 1、figure 2、figure 3、figure 4、figure 5. Due to the difference of inside installment of normal equipment (controlling system), please check whether the joining and the direction of controlling system is right before installment. Enclosed the wiring diagram of the system.
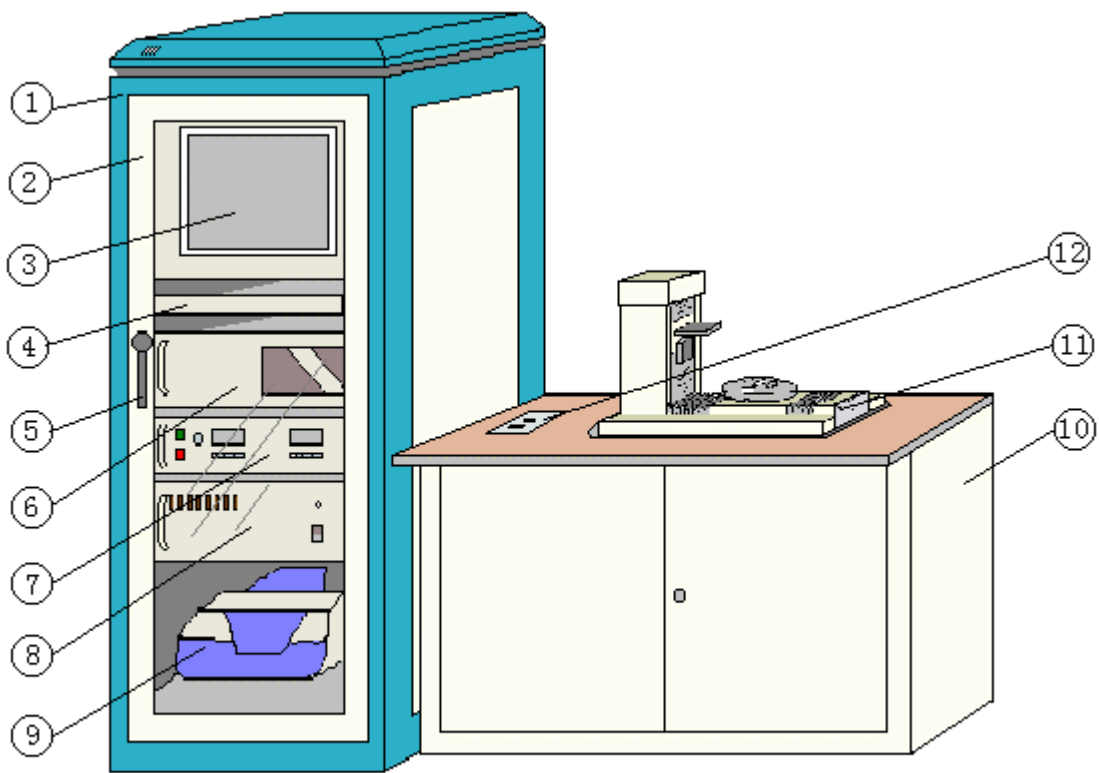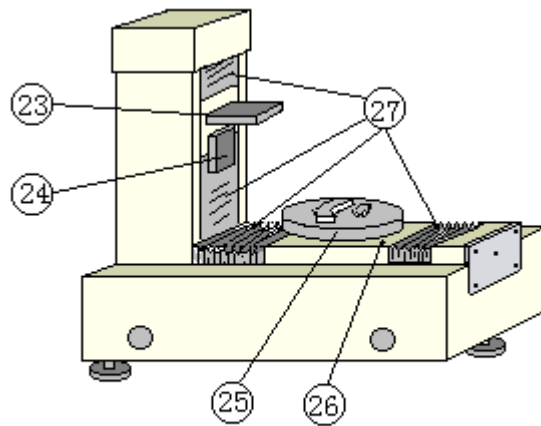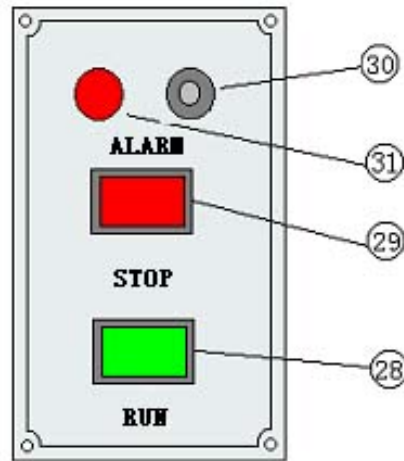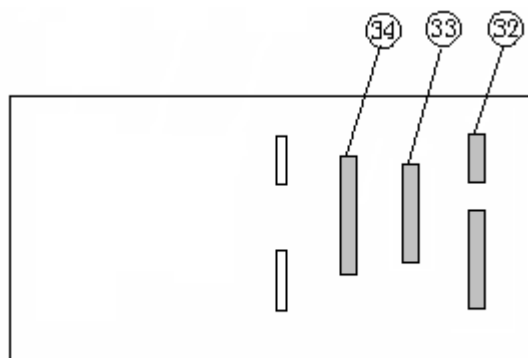
图一　前视图
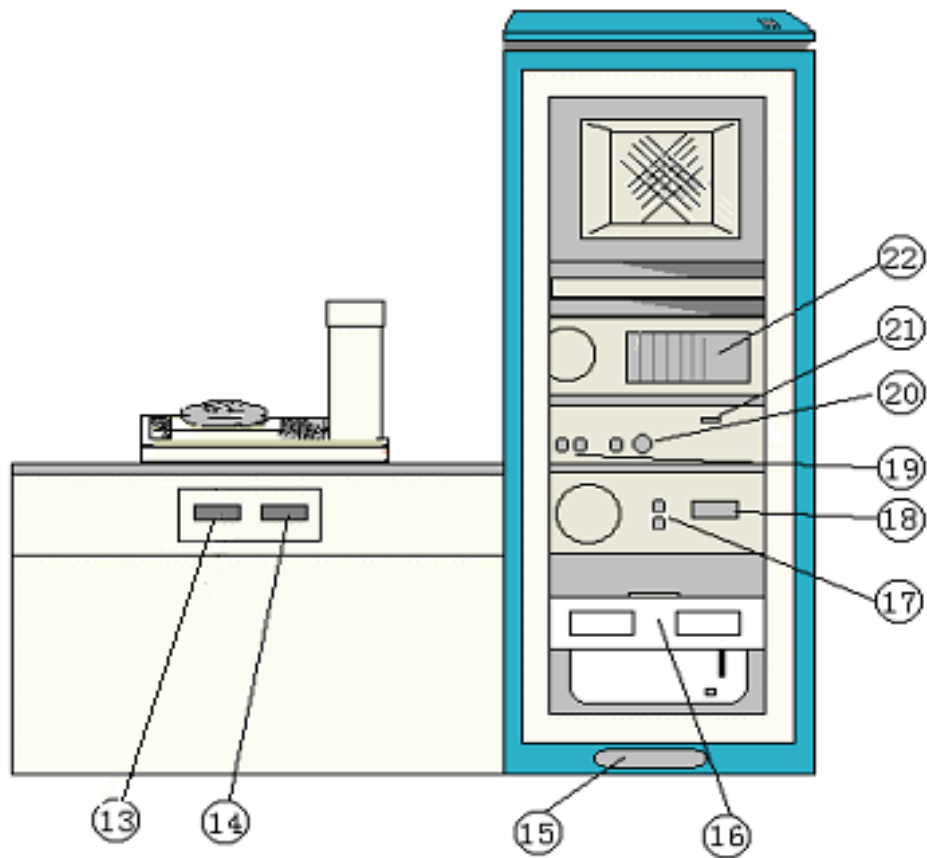
图二　后视图

图三　测试仪

ALARM

STOP

RUN

图四　控制盘

图五　工控机后部接口

1. the control cabinet—To install controlling system and other assistant equipments

2. the front door of the control cabinet—Open this door to adjust the tested procedure and parameter. Be sure that the door is close when the single product is being tested without stop or when not using the equipment.

3. the display—display screen of controlling system

4. the keyboard tray、keyboard and mouse—the keyboard tray is used to place the operation keyboard and mouse which will be convenient for operation. When it is needed to use the keyboard, just pull out the keyboard tray.

5. the door lock—To lock the front door of the control cabinet

6. The host computer of controlling system—To fulfill the operation of procedure and to receive and send out the parameter.

7. B&H testing instrument—To test the magnetic field and flux on the surface of the magnet , then transfer the tested signal to the host computer.

8. Driving case—mainly to drive the motor of moving section of the tested instrument, including Y- axis motor、Z-axis motor、main axis rotating motor.

9. printer—To print the tested data.

10. testing platform—To place the testing instrument.

11. testing instrument—To test the magnetic characteristic of magnetic units. Re the details, please refer to the guideline of testing instrument.

12. control panel —To execute the on-line test on the same unit in bulk and to stop the operation of procedure at any time and give off the sound and light alarm. Re the details, please refer to the guideline of control panel.

13. Controlling connector of testing platform—To connect the control line and driving line so that it is convenient to control the input/output signals. The spec. is 20 pins connector

14. motor driving input interface—To connect the motor driving line, corresponding to 18. The spec. is 14pins rectangle connector.

15. wire-educed bore—To reduce the electricity power line of control cabinet、the control line

of testing platform and the driving line of motor.

16. the inside assembled supply power socket—To provide the electricity power to the electric devices inside the control cabinet.

17. Driving controlling connector interface— the top：5 pins connectors, corresponding to 33; the below：6 pins connectors, corresponding to 32，both fulfill the operation parameter for motor and so on.

18. motor driving output interface—To join the driving line of motor，corresponding to 14. The spec. is14 pins rectangle connector。

19. the input/output interface of magnetic flux testing—To input/output the magnetic flux testing signal. The interface signed "INPUT" joins the magnetic flux testing coil, while the interface signed "OUTPUT" joins the magnetic flux input line of testing general lines. Both specs. are Q9 socket.

20. the input/output interface of magnetic field testing—To input/output the magnetic field testing signal, the interface signed "INPUT" joins Hall detection head, while the interface signed "OUPUT" joins the magnetic field input line of testing general lines. Re their specs., the input needs 4 pins socket，while the output needs Q9 socket.

21. interface of zero-adjusted control—To adjust the original value of magnetic flux meter to zero so that it could avoid any error if the zero point changes before testing the magnetic flux. The spec. is DB9（bore）socket

22. controlling system connector—The input/output interface of the controlling system and outside signals and instructions.

23. level detection head tray—To install the testing detection head when testing the magnet's inner, outer ring surface.

24. vertical detection head tray—To install the testing detection head when testing the magnet's end ring surface.

25. main axis rotating disk—To install the tested magnet and whirl while testing.

26. Y-axis tackle oiling bore—To lubricate and oil. There are two oiling bores in all. The front

and back respectively has one

27. protection cover—To protect and decorate the machine.

28. button to work—when the testing procedure parameters are set and begin to be tested, push this button to begin testing. Mainly used in on-line quick inspection.

29. button to stop—if want to interrupt or stop the test, push this button. Mainly used in case of the testing procedure parameters are improperly set. This button is available when the test is processing

30. sound alarm buzzer —To give off sound alarm if the test result don't meet the range of the set tolerance or the film of the detection head is nearly worn out.

31. light alarm—To give off light alarm if the test result don't meet the range of the set tolerance or the film of the detection head is nearly worn out.

32. motor driving output interface—To join the general control line and to control the movement of Y、Z axis motor. The spec. is DB15（pin）socket.

33. input/output interface—To connect the general control line and control the input/output and test signal. It is also the socket of control collection input/output. The spec. is DB25（pin）socket.

34. data collection interface—To collect the data of testing signal. The spec. is DB37（pin）socket.

B   installment

1. Firstly, install each testing and control unit according to figure 1.
2. To join the connecting board **13** and **14** of testing instrument and the back board installment bore of the testing platform.
3. To fix the control panel into the installment bore of testing platform and link its air connected plug with the socket of air connector
4. To link the periphery accessory of controlling system, including keyboard、mouse、monitor、imprinter with controlling system. Please refer to the manual of controlling system mainboard.
5. To link the plug of control collection switching board DB25（pin）with **33** and fix the screw steadily.

6. To link the plug of control collection DB37（pin）with **34** and fix the screw steadily.

7. To link the plug of control collection DB15（pin）with **32** and fix the screw steadily.

8. To link the 5 pins plug of general control line's single down-lead and 6pins plug with **17** and then fix the screw steadily.

9. To link the DB9（pin）plug of the general control line with **21** and then fix the screw steadily.

10. To link the magnetic flux test Q9 plug of the general control line with "OUTPUT" interface of **19**.

11. To link the magnetic field test Q9 plug of the general control line with "OUTPUT" interface of **20**.

12. To put the line of magnetic flux test detection head through the bore of back case board and link its Q9 plug with the "INPUT" interface of **19**.

13. To put the line of Hall detection head through the bore of back case board and link its 4pins socket with the "INPUT" interface of **19** by switching line.

14. To put one end of 20pins plug of general control line through the bore of **15** and then link it with **13**.

15. To link one end of plug line of 14pins with **18** and put the other end through **15** bore and then link with **14**.

16. To link the power plug of each unite with the assembled power socket.

17. To close the backboard.
The installment is finished.

C.   Usage

After installing all the hardware, please check whether the junction of each line is correct and steady then turn on the equipment to work.

There are no strict operation rules for turning on the equipment. But before testing , **make sure that the power of B&H test instrument and powder switch are switched on，otherwise, during the testing, the testing procedure would be terminated for the reason that the equipment couldn't find the signal.**

Re the usage of software, please refer to the usage guideline of soft ware.

1. Firstly, switch on all the equipments' power.

2. turn on the equipment for 30 minutes to pre-warm and then adjust the original value of magnetic flux meter and Gauss meter to zero. **This step has a great influence on the result of test.** Generally, the equipment could run for 24 hours in the southern area.

3. Carry on the application to do the relevant test. Re the action of test instrument in three test methods, please see figure 6、figure 7、figure 8.

4. Measuring the larger diameter of inner ring surface and the smaller diameter of end ring surface,

it could lengthen the test range of detection head by adding some parts.

5. Repeatedly test the same magnets in bulk, please use the "operation" button on the control panel of test platform.

D   Notice

1. Because the work period of this equipment is 5 seconds. Each lubrication system needs to be lubricated now and then. When it works for a long time, it should add lubrication after two days. Adding lubrication from Y-axis' oiling hole. As to Z-axis, it should firstly open the protection cover and then oiling. The oiling part includes：slideway both sides，transmitting screw and nut.

2. The detection head tray of this equipment (the level and vertical direction respectively has one) is a　type of ball bearing slide，To guarantee the test precision, don't over-exert while installing and replacing the detection head, for fear lower the mechanism precision of tray and affect the test exactness.

3. To guarantee the safety of equipment, install urgent stop switch behind detection head tray (including level、vertical tray), for fear damage the test detection head and equipment if test parameter is set improperly or the operation is wrongly made. Therefore, the detection head must be held steadily to avoid over-exerting and damaging the control switch.

E   Product specification

1. Product name: magnetic field distribution testing meter

2. Volume：the control cabinet：650(L)×610(W)×1600(H)

   test platform：1000(L)×650(W)×700(H)

   test instrument：560(L)×260(W)×610(H)

3. Hardware allocation：

controlling system	1 set
magnetic field and magnetic flux test instrument	1 set
driving power	1 set
test instrument	1 set
the control cabinet	1 set
test platform	1 set
Hall detection head	1 piece
test coils	1 piece

4. electricity power to use：

   power supply：220V±10%　50HZ

power：≤550W

5. technique parameter：

The route of X axis：≤70mm

The route of Y axis ：≤100mm

The maximum diameter of outer ring tested：Φ80mm

The minimum diameter of inner ring tested：Φ8mm

The maximum diameter of inner ring tested：Φ80mm

The minimum test period : 5 second (state of testing outer ring surface)

Part 2 Software

Ⅰ、**Operating Program**

Double-click the icon of the testing system on the desktop of Win98 (as follows), and then enter the working mode selection interface of the operating system.

2. Click the icon and choose the testing mode: "testing the surface magnetic field" and "testing flux".

E.g: Click and choose "testing the surface magnetic field"
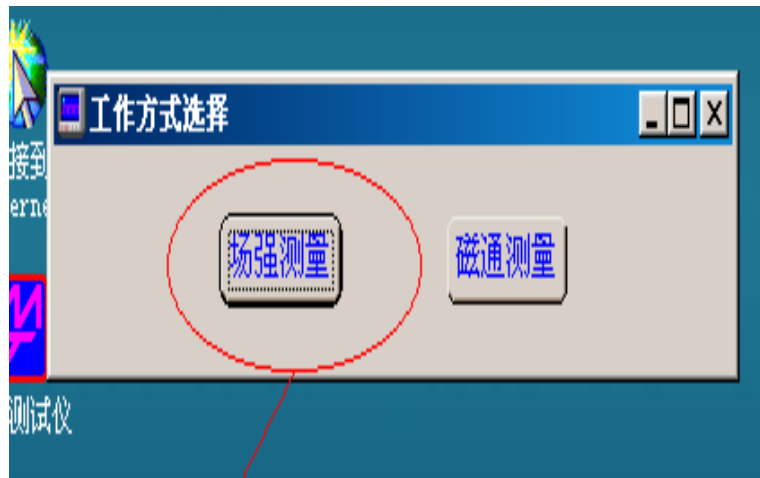
3. Enter the interface of setting the parameters of testing the surface magnetic field.

Parameters setting interface

A、Parameters setting interface-fill in the blank

1. Product Name: Record the name of the product, supporting manual input.

2. Serial number of products: The specific tag of product. If an original serial number is available in the database, the original testing parameter will be input and displayed in the referring bar.

3. Testing Ordinal Number: The testing ordinal number will automatically increase by one when a product is tested. It can be manually adjusted to 0 or any special figure.

   Attention: When the testing data is saved into the database, the document will be saved as

"product serial number—testing ordinal number" by the system. If the two numbers are the same, they will be considered as data of one tested magnet and save only one of them.

4. Material Name: The name of the product material must be manually input.

5. Temperature: Manually input the temperature of the environment.

6. Date: Record the product testing date, defaulted as the current date of the system, can be modified.

7. Tested by: Record operator's name, blank as non-input.

8. Approved by: Record approver's name, blank as non-input.

9. Remarks: Record correlated maters.

 Note: All the above parameters can be modified in home testing interface.

10. Y Axis Testing Point: This numerical value includes tow modes: Sketchy Adjustment and Detailed Adjustment.

 Sketchy Adjustment: Adjust by every step to increase or reduce in value of 500.

 Detailed Adjustment: Adjust by every step to increase or reduce in value of 50.

 The adjustment value means the pulse numbers of motor moving from zero point to testing point. Increasing or reducing in value of 50 means the motor brings along the testing instrument forward or backward 50 steps(the smallest measurement of step is 50). For newly numbered apparatus, this parameter is manually adjusted. The figure can be allocated from the database and displayed in the referring bar if its testing record is available.

 Attention: This can be only adjusted by the up and down button with the mouse-clicking. Directly input figure will be invalidated if it is bigger than the defaulted one.

11. Z Axis Testing Point: This numerical value includes tow modes: Sketchy Adjustment and Detailed Adjustment.

 Sketchy Adjustment: Adjust by every step to increase or reduce in value of 500.

 Detailed Adjustment: Adjust by every step to increase or reduce in value of 50.

 The adjustment value means the pulse numbers of motor moving from zero point to testing point. Increasing or reducing in value of 50 means the motor brings along the testing

instrument forward or backward 50 steps (the smallest measurement of step is 50).

Attention: The Y/Z Axis testing point of the testing magnets without serial number records in the database needs to be adjusted before testing and find the best testing position (press between the magnet and detection head should be less than 0.5mm). Then the data will be saved into the database. When testing the magnet with same serial number, there is no need to set the parameters again. The data can be allocated from database. The value can be adjusted only by the up and down button with the mouse-clicking. Directly input figure will be invalidated if it is bigger than the defaulted one.

12. Testing Type: Select one of the three testing modes. This testing equipment supports 3 kind of testing modes: Test the magnetic field on ring magnet's outer, inner and end ring surface. The moving orbit of the detection head would be different with different testing mode.

13. Teslameter measuring range: Keep the same measuring range with Teslameter

   Note: If it is flux testing, the testing equipment should be fluxmeter measuring range.

14. Returning point of Z: This value is the pulse numbers of the Z axis motor moving from Zero point to Returning point. The value is valid only in inner ring surface testing.

   **Attention:** Improper setting of Z returning point will damage the detection head.

Setting the position of Z returning point:

a) Make the value of Z axis to be zero.

b) Click the Z returning point button ▲(Increase) to make the detection head to go down to magnet's end surface.

c) Click the Z returning point button ▼(Reduce) to make the detection head to backward 500 pulse so that there would be some distance

Detection head

Minimum

position
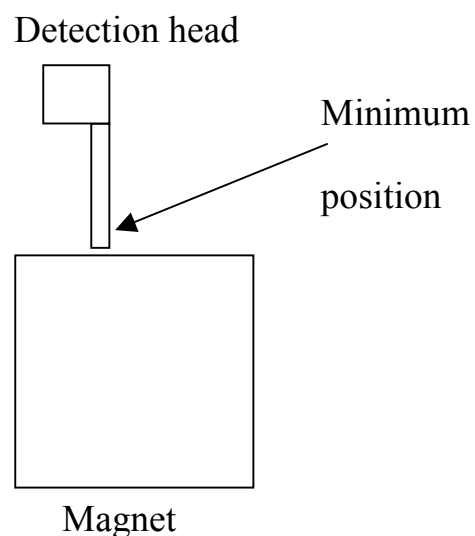
Magnet

between detection head and magnets to protect

the equipment.

d) The set Z returning point is the minimum value(It shouldn't get lower value)

e) If Z returning point is set into the inner ring, i.e., the detection head is lower than the end surface, it will be damaged during testing.
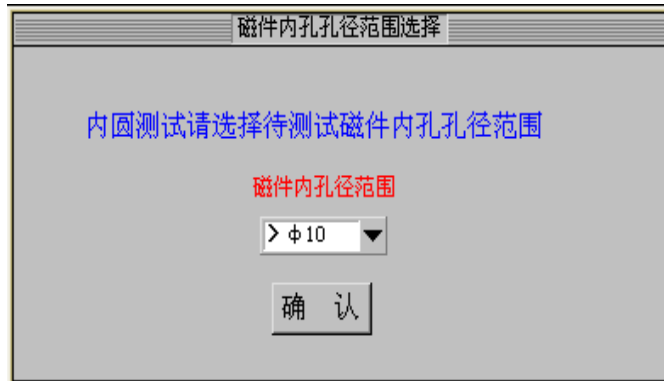
Instructions: When testing the inner ring surface, the range of the diameter of inner hole of the magnets ready to be tested should be selected: $> \phi 10$ or $\leq \phi 10$.

If diameter of the inner hole $\leq \phi 10$, the system will adjust the value to ensure the detection head(diameter- $\phi 6$) can go into the inner hole to test without hitting the magnets.

If the diameter of the magnets $\leq \phi 10$ is tested with the program for diameter $\geq \phi 10$, the detection head will hit the magnets and get damaged.

15. Usable times of protective film: This value can be regulated. When the used times reach the regulated value, the system will alarm to replace the old film with new one. To set the usable times suitably or not will influence the life of the film.

16. Pending testing point: This is the pulse times the step motor runs from testing point to pending testing point in Y axis or Z axis. To set the pulse times should not hinder the magnets in and out.

Attention: During outer ring surface testing, 16) is only effective to Y axis. But the value would take effect to both Y axis and Z axis while testing inner and end ring surface. Adjusting 10), 11), 14), 16) should pay attention not to harming the detection head.
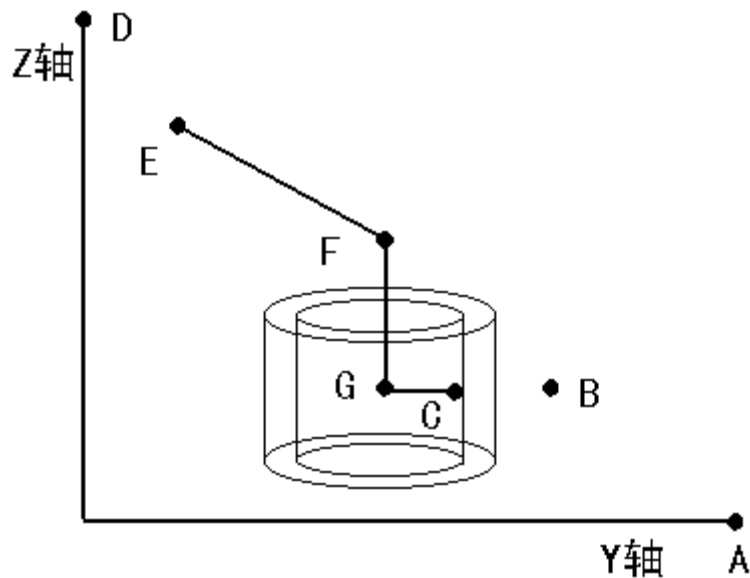
D

Z 轴

$-$ E

$-$ F

Y 轴　　A　　　　　B　C　$^-$ G

Note: The picture shows the parameters' physical position: A means zero point in Y axis, B is the pending testing point, C is the testing point. The values between B and C is the pulse value to be tested.

D is zero point in Z axis, E is pending testing point, F is the returning point(only in inner surface testing), G is test point.

Take inner ring surface as example:

Explanation: The drawing shows the physical position of parameters in inner ring surface test. E.g, a magnet with size of id=8mm. Set the pulse value of returning point in Z axis as 6600, pending testing point 2000, while pulse value in Z axis 7700, 2350 pulse in Y axis. A is the zero point of Y axis, B is pending testing position (350), C is

pending testing point of Y axis (2350). The value from B to C is the pulse values to be tested. D is the zero point of Z axis, E(5700) is pending testing point in Z axis, F(6600) is the returning point(i.e., the point from which the detection head leaves off the magnet, only in inner ring surface testing), G(7700) is testing point in Z axis. The value from E to G is the pending testing pulse values. During testing, the orbit of Z axis is E-F-G, while Y axis is B-C. When testing ends, the orbit of Z axis is G-F-E, while Y axis is C-B.

17. Statistics database name: Save the name of the database, which contains the data of "average extreme value" and "average acreage". The database should be named according to the products serial number etc. to be distinguished easily. Remember that the database name should be updated regularly. In case that all the testing data is saved in one database, which will cause inconvenience to look up and maintain the data.

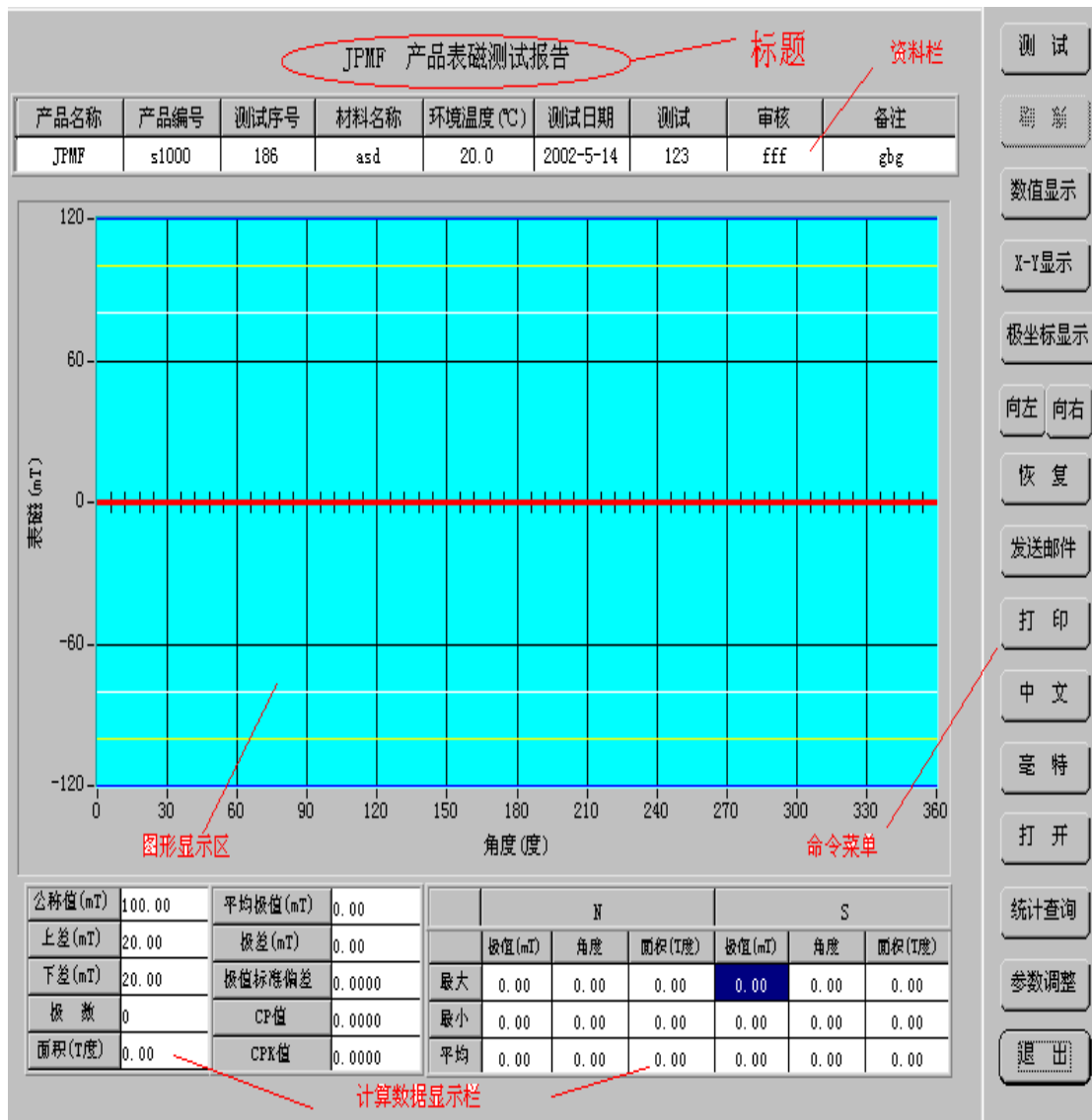## B、Parameters setting interface-Command Button

1. Return to zero in Y axis: Carry out the action of turning the values of Y axis into zero. If there is something wrong that the motor in Y axis can't return to zero point with regulated pulse value, the system will remind you.

2. Return to zero in Z axis: Carry out the action of turning the values of Z axis into zero. If there is something wrong that the motor in Z axis can't return to zero point with regulated pulse value, the system will remind you.
   Note: Every time Y, Z axes will return to zero point when entering the parameters setting interface.

3. Loading setting: Look up data with "Products serial number". If the serial number is existing, the relevant data will be shown on the reference board. If there is no such serial number in the database, the system will remind you.

4. Saving setting: Save testing data in accord with "Products serial number" in the database so that the data can be. If the serial number is existing in the system, the new data will replace

previous data.

5. Return to the pending testing point: Motors in Y, Z axes take the magnets from current position to the pending testing point.

6. Return to the testing point: Motors in Y, Z axes take the magnets from current position to the testing point.

7. Enter the test: Click this button to directly to enter the Y-Z home testing interface, the Y, Z axes return to pending testing point, ready to be tested.

8. Previous record: Click this button to enter the home testing interface to look up previous record.

9. Return: Return to the interface of choosing the operating mode.

10. Exit: Exit the testing program.

Home test interface

The above picture is the home testing interface.：

C、Home testing interface-Command button

1. Test: Click this button to carry out the test. After test, the detection head and apparatus move to the pending testing point. The system will show the testing wave-form and data.
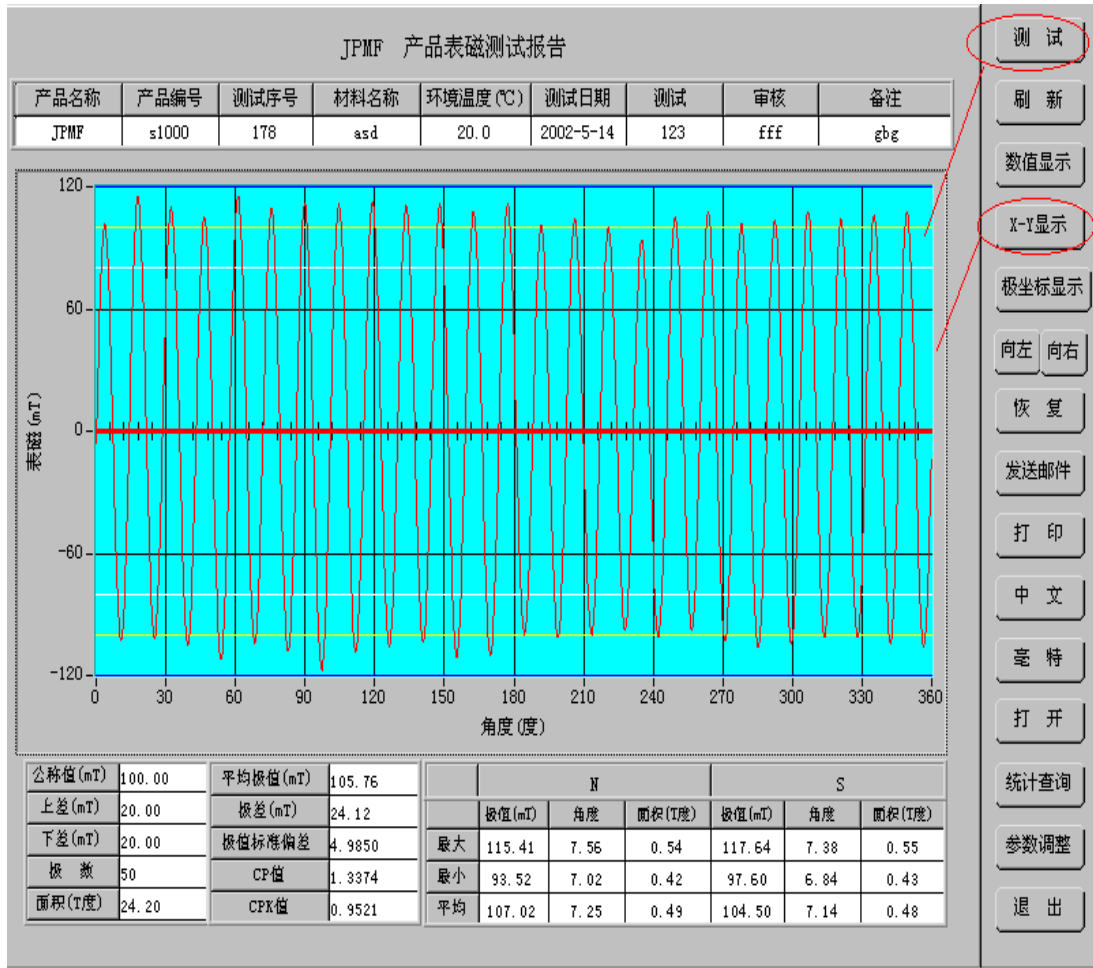
X-Y testing interface

2. Refresh: Draw the wave-form from zero point as starting position, calculate the data and show the testing result.

Note: When test starts, " Refresh" runs automatically. When click "Open" to use previous record, you should use "Refresh" to refresh the wave-form and data.

3. Show data: Show the testing data interface. See the following picture:

Note: If refresh data after entering the testing data interface, the speed will be very low. It's the best to update the data in the backstage of the "X-Y Display" interface. After refresh, you can switch to "Data display" interface. Don't refresh in " Data display" interface.**Data display interface**

JPMF 产品表磁测试报告

产品名称	产品编号	测试序号	材料名称	室温(℃)	测试日期	测试	审批	备注
JPMF	24j2	22	铁氧体	20.00	2002-4-15	A	B	先达公司

	极值(mT)	偏差(mT)	极值点	极间角度	角度	占空比	面积(T度)		极值(mT)	偏差(mT)	极值点	极间角度	角度	占空比	面积(T度)
1+	249.0	-0.99	7.38	14.58	14.58	0.64	2.32	27+							
2-	264.96	-14.96	21.96	15.11	15.12	0.64	2.58	28-							
3+	253.45	3.45	37.08	15.11	14.94	0.63	2.41	29+							
4-	259.02	-9.02	52.2	14.94	14.76	0.64	2.45	30-							
5+	254.94	4.94	67.14	14.75	14.94	0.63	2.43	31+							
6-	260.13	-10.13	81.89	14.76	14.94	0.64	2.49	32-							
7+	249.74	-0.25	96.66	14.93	14.94	0.63	2.38	33+							
8-	259.39	-9.39	111.6	15.29	15.12	0.63	2.5	34-							
9+	251.6	1.6	126.9	14.94	14.94	0.64	2.41	35+							
10-	256.79	-6.79	141.84	15.12	14.94	0.64	2.47	36-							
11+	254.57	4.57	156.96	15.29	15.3	0.63	2.49	37+							
12-	259.76	-9.76	172.26	15.12	15.12	0.63	2.51	38-							
13+	251.23	1.23	187.38	15.12	14.94	0.64	2.41	39+							
14-	260.5	-10.5	202.5	15.47	15.3	0.63	2.54	40-							
15+	258.28	8.28	217.98	14.93	15.47	0.63	2.55	41+							
16-	256.79	-6.79	232.92	15.3	15.12	0.64	2.48	42-							
17+	246.4	-3.59	248.22	14.76	14.58	0.64	2.33	43+							
18-	258.28	-8.28	262.98	15.11	15.3	0.63	2.5	44-							
19+	254.94	4.94	278.09	14.93	14.94	0.64	2.45	45+							
20-	261.25	-11.25	293.03	15.12	15.12	0.63	2.5	46-							
21+	251.6	1.6	308.15	14.76	14.76	0.64	2.38	47+							
22-	263.1	-13.1	322.92	14.75	14.94	0.63	2.51	48-							
23+	254.57	4.57	337.68	15.12	14.76	0.64	2.42	最大	264.96	-14.96	0.0	15.47	15.47	0.64	2.58
24-	262.36	-12.36	352.8	14.57	14.76	0.64	2.49	最小	246.4	-0.25	0.0	14.57	14.58	0.63	2.32
25+								平均	256.36	6.76	0.0	15.0	15.0	0.64	2.46
26-								R=	18.55	14.7	0.0	0.9	0.89	0.01	0.25

| 极值						磁极面积					
公称值	上差	下差	标准偏差	CP值	CPK值	公称值	上差	下差	标准偏差	CP值	CPK值
250.00	20.00	20.00	4.82	1.38	0.94	10.00	1.00	1.00	0.07	5.00	-32.67

Buttons: 测试 | 刷新 | 数值显示 | X-Y显示 | 极坐标显示 | 向左 向右 | 恢复 | 发送邮件 | 打印 | 中文 | 毫特 | 打开 | 统计查询 | 参数调整 | 退出

4. X-Y Display: Switch button of "Extreme value coordinate", "Data display" interface or "X-Y Display" interface.

5. Extreme value coordinate display: Show the testing wave-form in coordinate. See following picture:
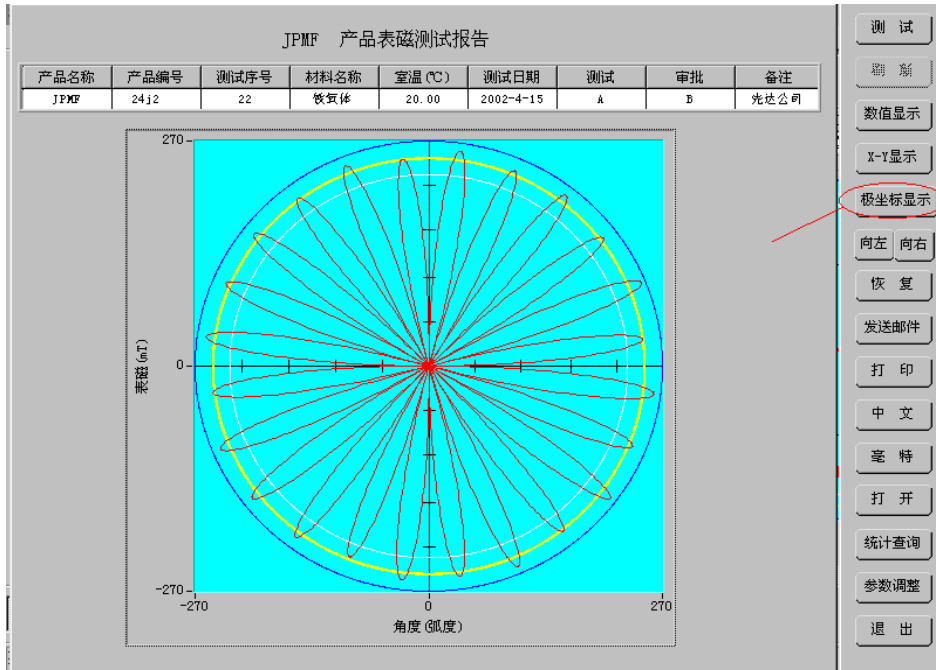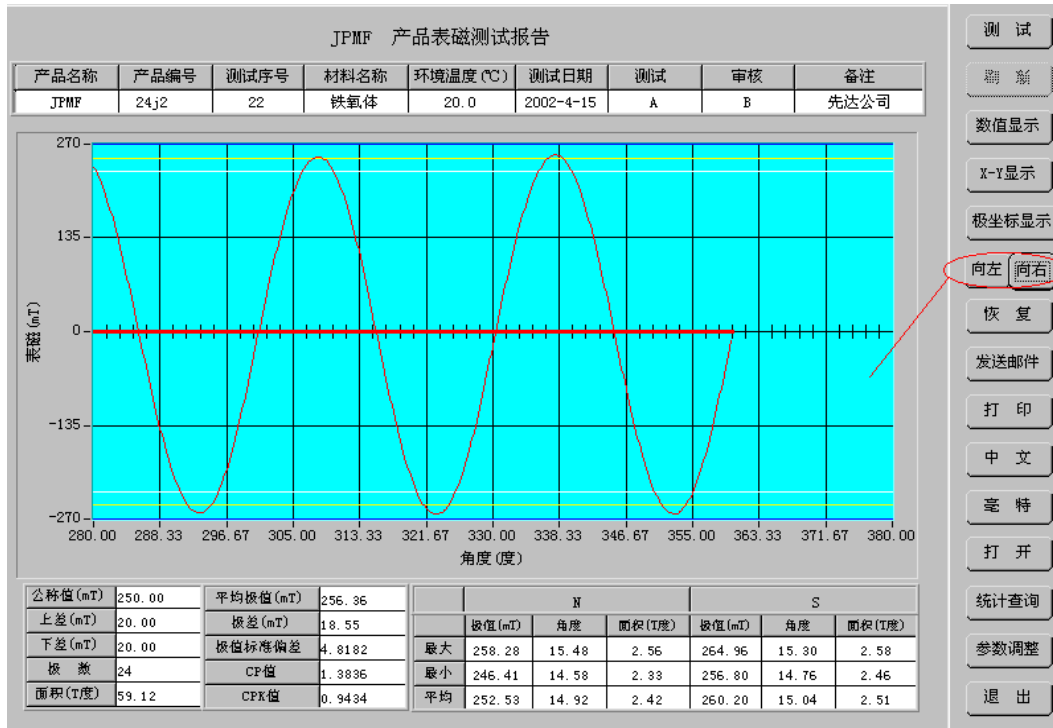
Extreme value coordinate display interface

6. Leftward, rightward: Move the wave-form in X-Y plane display leftward or rightward. It could enlarge X axis without changing Y axis. See following drawing:
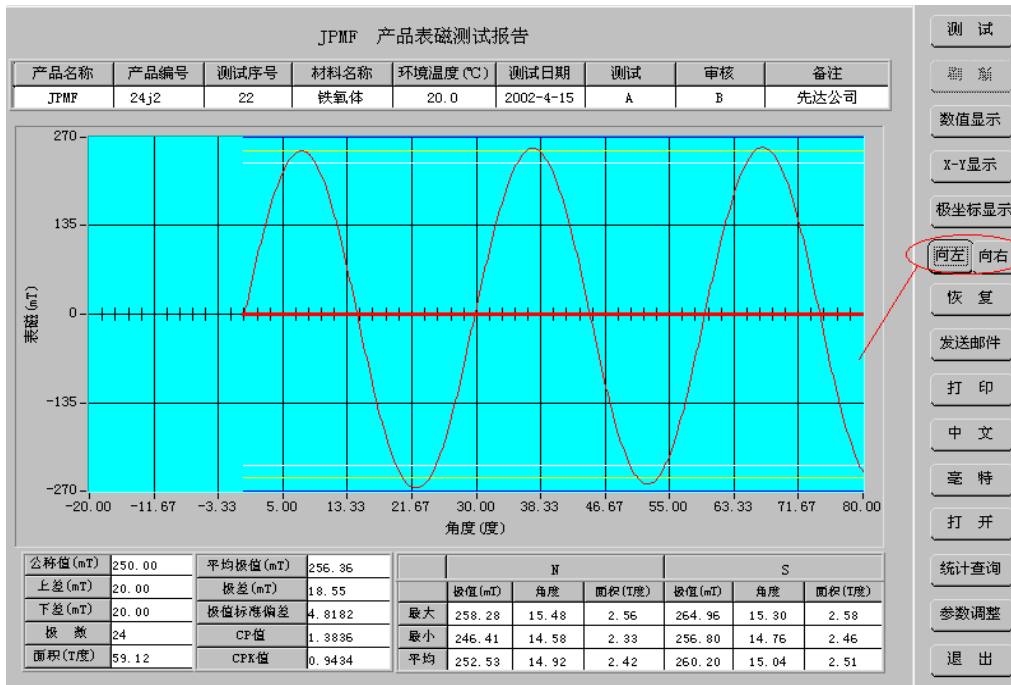
Move leftward

Move rightward

7. Resume: Resume the wave-form after leftward or rightward.

8. Send email: Click this button to send the wave-form and the data of the testing magnet as email with file name ".bmp" or ".xls" according to "serial number-test ordinal number". The file is saved in "d drive" with the path name: \xiandaco\cqemail\ or ctemail file folder.

9. Print: Print current interface

10. Chinese/English: Realize the shift of Chinese and English.

11. mT/Gauss: Realize the shift of measurement unit. Note: the defaulted unit is "mT". If the unit is shifted to "Gauss", the system refreshes automatically.

12. Open: This button can change the testing data into wave-form chart. By this button, you can get history testing record.

Note: When testing the surface magnetic field, the wave-form data is saved in "d drive": \xiandaco\cqsavewave\, the statistics data is saved in: \xiandaco\cqsavedata\ . While testing the flux, the data is saved in: \ctsavewave and \ctsavedata\.

History record consulting interface

Statistics consulting interface-one

Xiamen Yuxiang Magnetic Materials Ind. Co., Ltd
Add: F/16, Jinyuan plaza, # 57 South Hubin.Rd, Xiamen, CHINA 361004
Url: Http://www.aaamagnet.net   Email: susana@aaamagnet.net

13. Consult statistics: Consult the test data ("average extreme value" and "average flux"). Two consulting mode: "Show all with designated date" and "Show in designated area". The former shows all the data with the designated date while the latter shows all the data in a designated working area of the system.

Note: Records of consulting takes up the internal memory all the time before exist the operating system. The consulted testing date is saved in "d drive": \xiandaco\cqresult.txt and \ctresult.txt. The file can be opened with .Excel format to intercept the data for counting. The file format of cqresult.txt and ctresult.txt must be .text format.
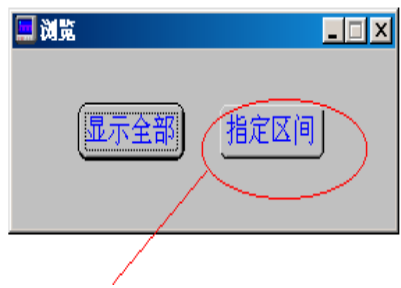

Statistics consulting interface-two
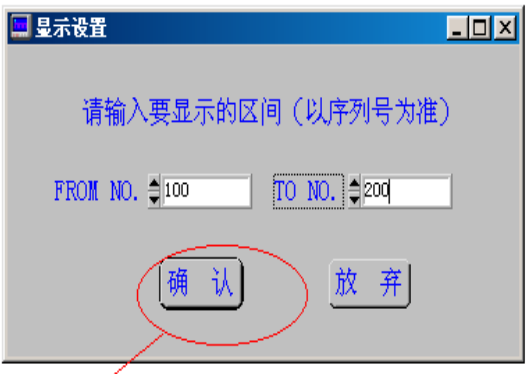
Statistics consulting interface-three

14. Regulate parameters: Regulate the parameters for calculating and testing. After click this button, choose operating mode in the following interface.

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Parameters regulating interface

A：Regulate the parameters for testing: Regulate the position of testing apparatus and other parameters.
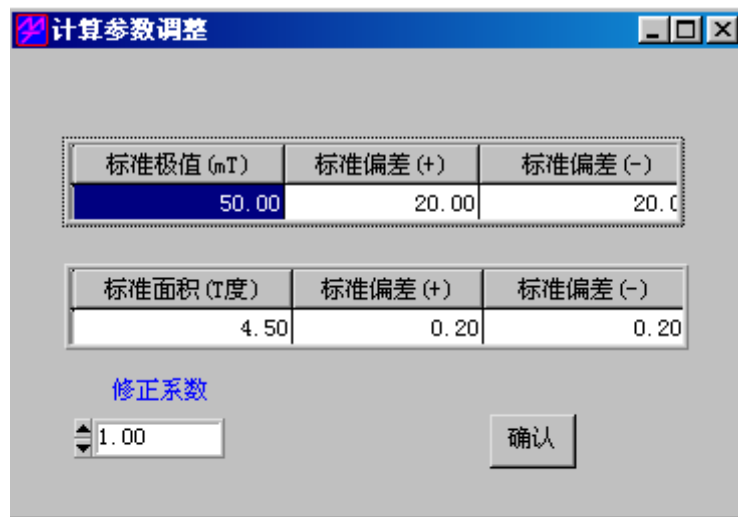
B：Regulate the parameter for calculating: Regulate the standard extreme value and deviation.

C : Regulate coefficient: Regulate the testing data in a small extent.

15. Exit: Exit the operating system.

Note: Operating system of testing flux is similar to the system of testing the surface magnetic field.

Ⅱ Installation and matters needing attention

1. Testing data should be saved in file with special name to be consulted easily.

2. Testing system resetup should follow hereinafter steps to reinstall the testing program and
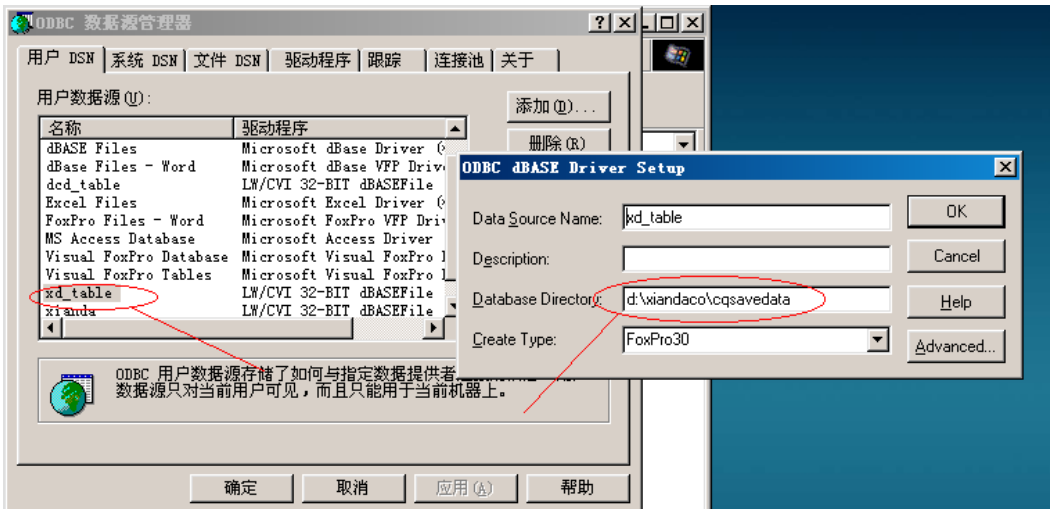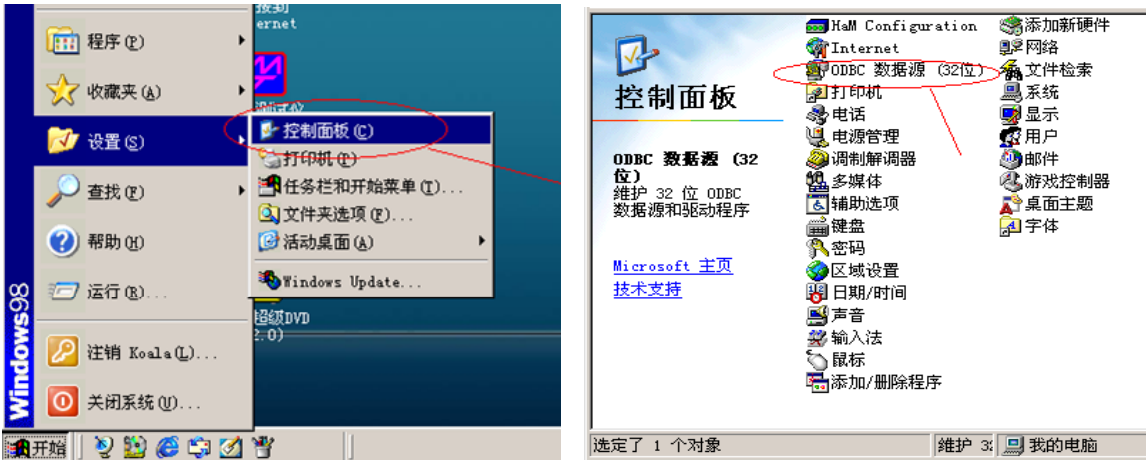
resume the data source connection.

a) Install the program in random CD: Testing Program Setup: \sql\setup.exe.

b) Install the program in random CD: Testing Program Setup: \setup\setup.exe.

c) Resume data source as follows:

That is: "xinda" corresponding "d: \xiandaco";

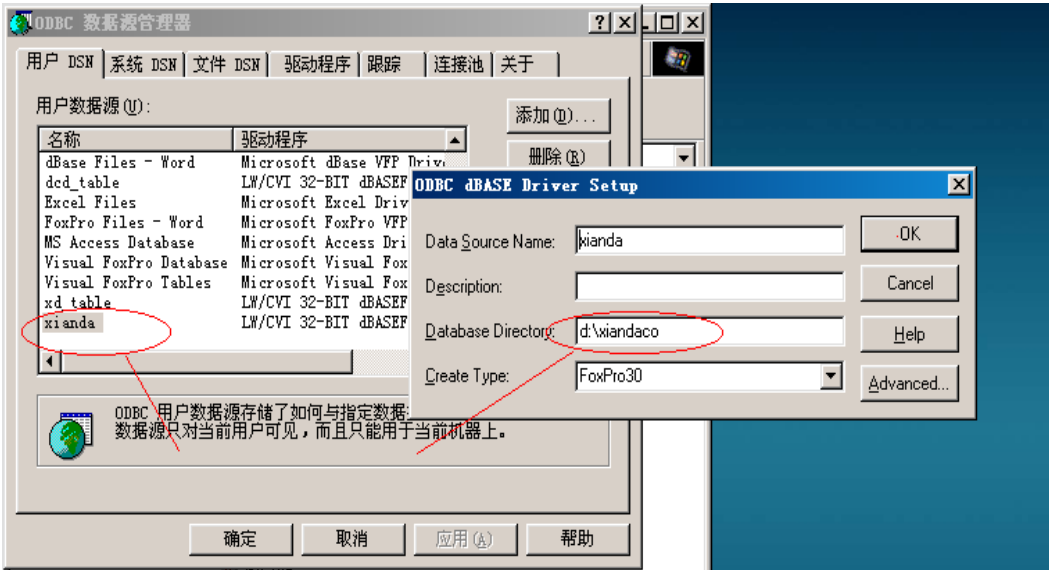"xd-table" corresponding "\xiandaco\cqsavedata\".

"dcd-table" corresponding "d: \xiandaco\ctsavedata\"..

Brief instruction:

1) Run the CD file: \sql\setup.exe.

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2) Click the system "Start" —"Setting" —"Control panel" —"ODBC data source(32bits)" —"Subscriber DSN" —"Add".

3) Add shortcut menu on desktop.

When add the shortcut menu on desktop, the starting point should be indicated, e.g.: D：\xiandaco.

3. This testing program is the supreme version at present. If you want to upgrade this version,

contact us. We'll provide upgraded version of testing program by email or other ways.

Ⅲ、 information for error

the following information would be clewed when operating wrongly or the system is out of work.

Please operate according to hints.

- Information for error1—please input the name of databank.

The name of databank for statistic could not be empty and Chinese character:

- Information for error 2—the tested point is smaller than the ready-tested point when setting the parameter. So it will make error.

- Information for error 3—the maximum value exceeds the limit in test.

- Information for error 4—No correct N、S 交变波形，the system would consider the number of pole is zero，the number of pole would be a divisor in the calculation. So it will make error.

- Information for error 5—it would make error if the standard tolerance is zero. The reason is the same as last one

- Information for error 6—the input information is too weak or the pole is over 50.

The possible reasons are as below:

1）、the supply powder of input amplifier isn't turned on. The signal input end is empty.

2）、the tested magnet doesn't have magnetism or the distance of detection head is too far.

3）、the number of tested pole is over 50. Upgrade this software, if want to test the magnet with over 50 poles.

- Information for error 7—the invalid setup is wrong.

  Skimming the appointed section, the start number must be less than or equivalent to the end number.

- Information for error 8—the display section is set up too large.

  Skimming quickly, the line between the start number and the end number shouldn't be over

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2500 rows.

- Information for error 9—could not find out the databank file according to appointed route. This error would be take place when storing the test result --- could not find out the databank file. So return to the interface and revise the name of databank

Ⅳ、the illustration for attached files and disk

1、disk： test procedure installment\sql\data source join and installment procedure.

2、disk：test procedure installment\setup\data source join and installment procedure.

3、e：\win98*.* win98 installment file

4、e：\office2000*.* office2000 installment file

5、The attached disk of controlling system （ADVANTECH Industrial computer Drivers ,Utilities ）：when entering please choose PCA-6003 to be the display card's driving program of this computer.

   Note：use when re-install the operation system

6、The attached disk of monitor----SAMSUNG Monitor, monitor driver

7、Printer driver disk：use this installment disk to install the driver when the printer needed to be re-drive.

Ⅴ、points for attention

the system has a complex composition, advanced fine inspection and control units. Any wrong operation would cause irreparable loss!

1、this test system is sensitive to space electric field and magnetic field. their disturbance would cause showing the wrong wave shape.

2、 It does't allow to click another operation when one operation couldn't be finished.

3、Don't click "to test point" button when not sure whether the test point is fit or not.

4、Push "exit" button to exit the test operation when exiting the test system. Don't switch off the computer powder directly, which could cause the test data could not be stored in time.

5、It needs to warm boot the computer when the compute is out of work（click Ctrl+Alt+Delete buttons at the same time）. Choose "close the task（E）" when a dialog of "close the procedure"

is shown to exit the operation system and then re-enter the system.

6、When all the operations are fail, press the hard reposition key（RESET in red） to re-start the computer.

Note：Please remember their serial number before operating the 4，5 item. Because exit the operation system by force would cause all the un-store data loss！

So warn the user：couldn't turn off the computer powder supply except the computer could not work！

Notice:

1、the test interface hanged in the air would accumulate some electric charge when the system doesn't work for a long time, which would exceed the actual value for the first time measurement. In this case, withdraw the serial number to one number and re-test.

2、the software of this system just could be skimmed but could not work on other computers which haven't be installed the test equipment.

Ⅵ、 the operation on databank file

1、in the operation of parameter setting, there is one item: statistic databank name，which could be set up by user himself. For example, input three characters, lbq . then all the test record would be stored in the databank, d:\xiandaco\cq（ct）savedata\lbq.bdf. but the wave-data would be stored in d:\xiandaco\cq（ct）savewave\. The data could be stored on the floppy disk or disk.

It is deserved to illustrate that to review the file stored on the floppy disk (disk) by this way should re-store the file to the subdirectory.

2、 statistic and inquiry：

click the home interface statistic and inquiry->skim->choose the suitable method of display(entire/part) to make sure that the test record ought to be valuable could be displayed->click return->click 退 exit. Store the file, cq（ct）result.txt in d:\xiandaco to floppy disk.

3、 revise the name of databank（such as 200009.dbf,200010.dbf......）now and then（such as one week or half month, depending on the data quantity ） to avoid storing thousands of test records in one file, which would cause inconvenience to maintain the system and find out the test record. When the databank is fully stored in the hard disk（c：d：e：）, it is needed to cancel some old databank files(such as 200009.dbf......) to store new databank（such as 200108.dbf）。

Ⅶ、maintenance on computer

This system not only could work as a test equipment, but also could finish other operations. The machine loads Win'98 operation system before leaving the factory. If other software needed, it could be loaded by user himself.

To maintain the system hard disk periodically (check faults , fragment arrangement). Take care to the dustproof work on the fan and dustproof silver.

If the file of Win'98 is loss，it should close all the running procedures and then run E：\win98\setup.exe to recover the system according to the hints.

If the file in D：\xiandaco\.（test system）is loss or damaged, it should run the attached disk F：\setup\setup.exe to re-install.

Notice：

You would be asked the installment route by installment procedure when re-installing. The tolerant route is c:\xiandaco . Because the volume of C disk is not large enough and loads other applications. So the installment route should be set as d:\xiandaco。

Part 3：electric theory drawing and interface illustration

System's electric theory drawing and interface illustration is as below:

1. I/O electric theory drawing

2. driving powder electric theory drawing

3. alarm and connection theory drawing

4. system interface illustration

5. connection wire illustration