



JR1221 FLEXOGRAPHIC LABEL PRINTING MACHINE

Operation Manual

(Welcome to purchase Jingda Printing Machine)

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Flexographic Label Printing Machine

Basic parameters

Color stations:	2color + 1 color of back printing
Max. printing width	120 mm
Max. printing length or range	254 mm 127mm-254mm
Anilox roller	200 lines/in
Length counter	(pre-set), refer to Reference Table 2-1
Max. speed	60 meters/min
voltage	220V/50Hz

Optional accessories	Basic accessories
Ceramic anilox roller	200 line/in anilox roller
Gears	1 set of printing roller
Double rolling device	1 set of gears
Double unrolling device	Electric heated board dryer
Printing cylinder and gears	

1. Please read the “User’s Manual” carefully and get a complete understanding of its content before transporting, installing, adjusting, operating and maintaining the JR flexographic plate series of trademark printers.
2. In transporting, installing, and operating of the machine as well as electricity and high temperature, the user should not only observe the safety specification and meet the requirement of the “User’s Manual”, but also the related national rules and regulations in the fields of machinery and electricity.
3. The “User’s Manual” and the intellectual property right of the flexographic plate printer series belong to Rui’an Jingda Printing Machinery Company, Ltd., which should not be disclosed to the third party. Should there be any violation of the right; the company is entitled to take a legal action.

Feeding chart

Note: the Line in the chart stands for the route of double printing

Since 2000 JINGDA Company has become a professional enterprise specializing in the design, development and manufacture of the printing machines. We have put into the national and international markets all kinds of printers and thus won the trust of users both at home and abroad. At the same time to improve quality and increase variety, we have also standardized and serialized our products.

The JR flexographic series of trademark printers are of high quality and variety. They have multiple functions and simple operation as well as reliable after sale services. They are the ideal choice for flexographic plate printer users. Since their introduction to the markets in Europe, America, Southeast Asia, the Middle East and South Africa in 2002, they have been highly evaluated and liked by the commercial agents and users in various countries and regions.

To correctly use the flexographic plate series of trademark printers, please read the “User’s Manual” carefully and get a complete understanding of its content before transporting, hoisting, installing, adjusting, and operating the machine.

I. Operating principle

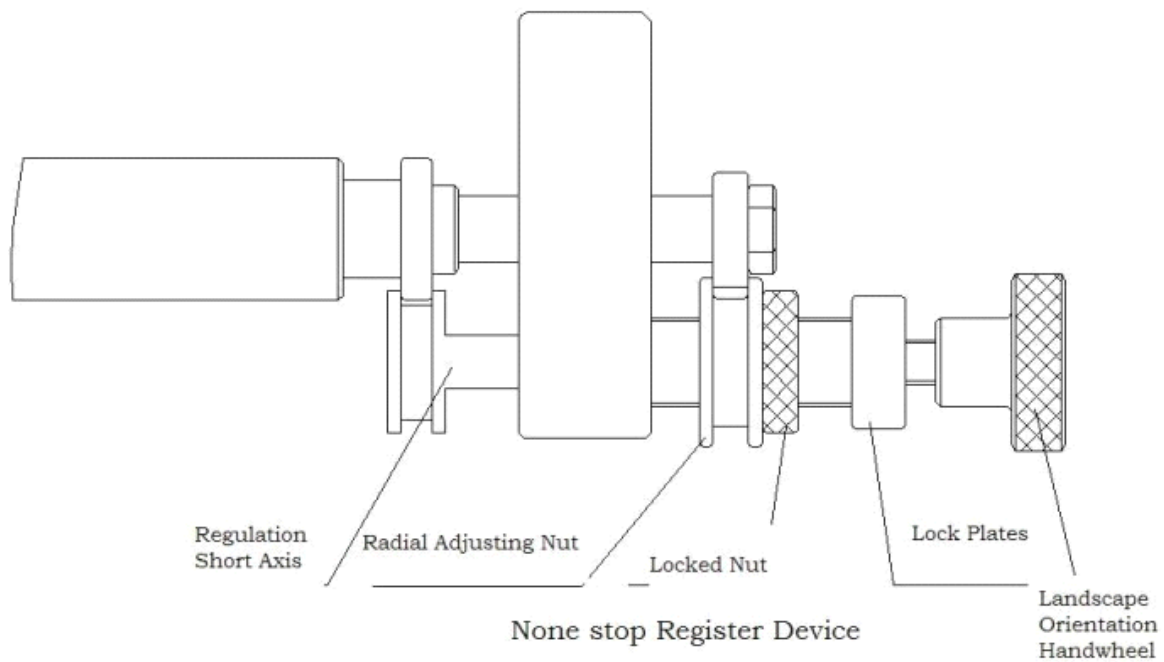
When the machine is switched on, the anilox roller will rotate in the ink duct. By controlling the clearance between the ink scraper and the anilox roller, you can deliver a proper amount of ink evenly to the flexographic plate of the circumferential surface of the printing plate wheel. The flexographic plate roller carries the ink to the surface of the material to be printed, which is dried and rolled by the electrically heated drying board to finish the process. The printed material is then put into the electric thermostat ventilating and drying cabinet for about 5 and 6 hours, with the effect of fast color and tolerant laundry. Environment friendly, the machine is characterized by its speed and efficiency.

Structure

i. Operating principle of photoelectric controlled band-feeder

There are two modes in the setting: ON and OFF. When the machine is in the ON mode, the photoelectric switch must be screened by the material for the machine to start up. When the material has been printed, the machine stops working.

ii None Stop Register



First make rough positioning. Press in the printing cylinder. When the error of the printing trace is around 3.5mm, accurate positioning can be made. However, when the error is greater than 3.5mm, the gear must be withdrawn and turned to the necessary position. Press in the printing cylinder again to make the error around 3.5mm. Switch on

the machine to make fine adjustment as shown above picture (None stop register device)

To save material, the plate cylinder for each color should be installed on approximately the same position of the corresponding group. If this is done correctly, the position of the picture to be printed for each color will be very near the register position, which can minimize the times of register adjustment necessary for the setting and reduce the waste of the material to be printed. It is recommended that marks be made on the same position of each plate cylinder or gear, so that the picture on the printing plate adjusted according to the marks will be very near to the register. When each cylinder is installed on to the printer, the marks can be used for accurate installation (the accuracy is within a gear). The mark on the paper belt should be calibrated with the mark on the cylinder and gear of the first group, and then inch start to move the paper belt to the next color and calibrate with the mark on the next cylinder. This method can be used for rough peripheral calibration so as to reduce the waste of trademark belt and the time for setting.

Aluminum plate wheel, accessory gears and comparison table of film length

Aluminum plate wheel printing circle spec (printing length)	Gear teeth number	Film length mm (plate thickness 1.7mm. silicone thickness 0.38mm)
5inch=127mm	40z	117.1
5.125 inch=130.175mm	41z	120.275
5.25 inch=133.25mm	42z	123.35
5.375 inch=136.5mm	43z	126.6
5.5 inch=139.7mm	44z	129.8
5.625 inch=142.875mm	45z	132.975
5.75 inch=146mm	46z	136.1
5.875 inch=149.225mm	47z	139.325
6 inch=152.4mm	48z	142.5
6.125 inch=155.575mm	49z	145.675
6.25 inch=158.75mm	50z	148.85
6.375 inch=161.92mm	51z	152.02
6.5 inch=165.1mm	52z	155.2
6.625 inch=168.27mm	53z	158.37
6.75 inch=171.451mm	54z	161.155
6.875 inch=174.6mm	55z	164.7
7 inch=177.8mm	56z	167.9
7.125 inch=180.97mm	57z	171.07
7.25 inch=184mm	58z	174.1
7.375 inch=187.3mm	59z	177.4
7.5 inch=190.5mm	60z	180.6
7.625 inch=193.675mm	61z	183.775

7.75 inch=196.85mm	62z	186.95
7.875 inch=200mm	63z	190.1
8 inch=203mm	64z	193.1
8.125 inch=206mm	65z	196.1
8.25 inch=209.5mm	66z	199.6
8.375 inch=212.7mm	67z	202.8
8.5 inch=215.9mm	68z	206
8.625 inch=219mm	69z	209.1
8.75 inch=222.2mm	70z	212.3
8.875 inch=225.4mm	71z	215.5
9 inch=228.6mm	72z	218.7
9.125 inch=231.77mm	73z	221.87
9.25 inch=234.95mm	74z	225.05
9.375 inch=238mm	75z	228.1
9.5 inch=241.3mm	76z	231.4
9.625 inch=244.47mm	77z	234.57
9.75 inch=247.65mm	78z	237.75
9.875 inch=250.8mm	79z	240.9
10 inch=254mm	80z	244.1

iii. Correct use and maintenance of anilox roller

a. Rules for selecting anilox roller

The line selection of the anilox roller is determined by the originals duplicated on the printer. When the printing plate is designed, the line of the anilox roller is generally between 85 and 200. When words or lines are to be printed, it is usually between 180 and 400. To print dense line area, the minimum ratio is 4 to 1 in selecting anilox roller, i.e., to print 100-line color picture, the minimum line of the anilox roller is 400.

The company standard for the user is 200 lines per inch.

b. Ceramic anilox roller

Each time when the ceramic anilox roller is cleaned, it must be cleaned thoroughly and checked with a high-powered amplifier. The cleaning is better to be done when the ink on the anilox roller is wet. This way, the ink can be effectively stopped from drying in the roller holes. In general, a special chemical detergent is used to soften and dissolve the ink in the roller hole. Method: Place the anilox roller in the detergent for a while and then brush the surface of the roller spirally with a special brush. This is especially effective for the severely blocked anilox roller with dried ink in the roller holes. After cleaning, pure alcohol must be used to treat the surface of the roller, including gears and axle. When the moisture is evaporated, cover the anilox roller with clean paper to prevent dust.

NB. If there is grease on the surface of the roller, clear it away with alcohol immediately.

iv Ink duct structure and its adjustment

JR series the ink duct contain up doctor blade scraper and down doctor blade scraper, the installation of two kinds of duct ink is the same way, first loosen all of the adjustable ink screws, and then encase into anilox roller seat, pressed screw and use hand to rotating anilox roller and carefully observe both sides of the copper for ink duct and anilox roller meeting circles, if not, adjust positioning screws on both sides of copper and let it meeting better with the anilox roller which is a key factor to ensuring without leak ink. Please let the masters familiar with this series machine. And then pressed into the gear and rotating anilox roller, put oil into side hole of copper, and then add ink to regulate the amount of ink. Ink duct has been mark color group, please installed it with correct mark ink duct.

v. Eccentric labeling roller and central impress roller

Through the rotation of its handle, the eccentric labeling roller makes the left and the right eccentric covers to rotate synchronously, which uses the eccentric distance to press the material to be printed onto the circumferential surface of the central impress roller. When this is done, the locking handle of the roller should be tightened clockwise to ensure that the material to be printed to rotate synchronously at a certain tension with the central impress roller without slipping or deviating. Thus, the color registering is accurate and the printing quality is guaranteed.

The central impress roller is the central element of the machine, the material, processing, and static balance testing of which are very strict. The accuracy of coaxiality of the outer circumferential surface relative to the bearing position at both ends of the main axle and the vibrating error of the outer circle relative to the rotating center are strictly kept within the permissible scope of designing and printing. It has also had enough accuracy reservation to ensure the performance, life and reliability of the whole machine. Besides, an anti-slippery film is added to the circumferential surface of the central impress roller to increase the friction factor with the material to be printed during printing process.

vi. Name and function of operating panel control, display and knobs

1. Power.
2. Speed display: The digit number shows the printing speed. And the number 10 means 16m.
3. Counter: To preset the quantity of the material to be printed. When the actual

quantity of the printed material has reached the preset number or the multiplication of the preset number, the machine will stop automatically. At this time when the machine needs to be restarted, just press the “clear” key on the counter to make the number accumulated on the counter reset to zero.

4. Stop button: The knob is marked red. When this knob is pressed, the printing motor will stop.

5. Inching button: The knob is marked yellow. When this knob is pressed, the printing motor will rotate slowly; when this knob is released, the printing motor will stop rotating. This function is used for page correction or testing the stepping of the machine. When the machine is in operation, press this knob and the printing motor will stop immediately.

6. Operation button: This knob is marked green. When this knob is pressed, and the machine will begin to operate

7. Speed button: By turning this knob, stepped speed regulation of the printing motor can be realized. When it is turned clockwise, the printing speed will increase; when it is turned counterclockwise, the printing speed will be decrease.

8. Broken-band protection switch: when the material to be printed is used up, the machine will stop automatically. This is done through a probe. When there is material to block the probe, the machine will operate; when there is no material to block the probe, the machine will stop.

9. Counter switch: When there is need to count the printed material, just press this knob to “ON” position; when there is no need, press this knob to “OFF” position. And how to counter printing label amount, means counter display figure multiply by fixed 609.6mm for JR1231 4color, multiply by fixed 1219.2mm for JR1262 8colors.

10. Temperature control and display of the upper drying board: Temperature control I is used for the temperature control of six-color group arranged in satellite form, and the 3 positive 1 negative types is used for the temperature control of 3 positive printing.

11. Electric switch of the upper drying board: When the 6 positive 2 negative type is used only for the drying of two-color group, or the 3 positive 1 negative type is used only for the drying of single-color group, the upper drying board can be switched off.

12. Temperature control and display of the lower drying board: The 6 positive 2 negative types is used for the temperature control of two-color group, and the 3 positive 1 negative type is used for the temperature control of single-color group.

13. Electric switch of the lower drying board: When the 6 positive 2 negative type is used only for the temperature control of six-color group arranged in satellite form, or the 3 positive 1 negative type is used for the temperature control of two-color group, the lower drying board can be switched off.

Make sure that the machine is in OFF position. Thread the material to be printed along the threading line according to the sketch diagram of the purchased type of the machine.

Loosen screw, take out screw cover, and place the roller wheel threaded with the flexographic plate and the accessory gear with the confirmed correct number of gears into the bearing holes at both ends of the corresponding printing color position.

Mesh the accessory gear of the plate roller wheel with the central impression roller gear, and then lock tightly the locknut.

Run the machine slowly and adjust every adjustable handles of the adjustable plate assembly. Adjust the ink between the printing plate wheel and the anilox roller and the contact pressure and accuracy on the impression roller till satisfactory. In printing practice, the contact pressure between the plate roller and the material to be printed is generally very small, sometimes approaching “zero”, i.e., the “zero pressure” contact in flexographic plate printing terms. In short, adjust the machine till the printed pictures, words and lines are clear and satisfactory. Needless to say, practice makes perfect. Everyone can learn and improve his skills with time going by.

In normal printing, adjust the speed knob until the rotation or the ink amount corresponds with the electric drying speed of the machine.

The maximum printing speed can reach 60 meters per minute.

14. The switch-off procedure is as follows: Turn off all the electric drying knobs → turn off the stop knob → switch off the power switch of the main control box → switch off the external power source.

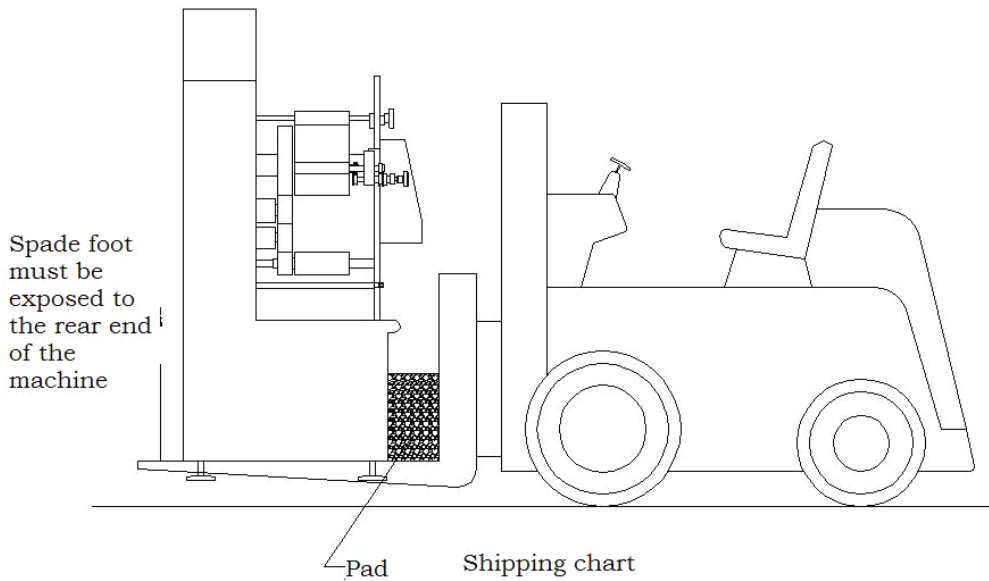
And then clean the anilox roller, the ink duct, the plate wheel and finally the whole machine.

III. Trial running and switch on and off machine

Switch on the power source.

1. When there is no material to block the photoelectric probe, use material to block the photoelectric switch; otherwise, the machine is unable to start.
2. Check the counter to see if it is in the position of “zero”. When the number reaches the preset number and the “zero” is not pressed, the machine will stop automatically.
3. When the machine is trial running without load, all the inkless ducts should be taken down and put aside. Check every part and see if they are running normally, especially the rotating direction of the anilox roller. Whatever types of the machine, the correct rotating direction of the anilox roller should rotate towards its matched ink duct. If the rotating direction is not correct, ask the electrician to change the rotating direction of the motor. When everything is confirmed normal, enter the next step.
4. Press the yellow “spot move” knob on the main control box, and the machine will be in the position of spot movement.
5. Press the green “operation” knob on the main control box and adjust the “printing speed” knob to let the machine run at low speed. If everything is normal, continue the following adjustment.
6. Press the red “OFF” knob on the main control box, and the machine stops running. When the machine is in operation, press the yellow “spot move” knob or the yellow “spot move” knob on the main wall board of the 6/2 type and the 3/1 type, the machine can also stop running.
7. put on the ink ducts (according to the actual use, if there is an empty color position or positions, there is no need to put on the ink ducts), drop a moderate amount of lubricating oil into the anti-overflow hole in the combination of the ear plate of the ink duct and the anilox roller. Add a proper amount of ink in the ink duct; adjust evenly the adjusting bolt of ink until the amount of ink on the anilox roller meets the requirement.
(slow speed while adjusting)

IV. Attention, transportation and hoisting



- i. Before switching on the machine, the machine must have a good ground connection lest there should be damage to humans or the frequency converter of the machine. In maintenance, first switch off the power supply until all the displays disappear and the high-voltage indicator inside the frequency converter dies off before doing maintenance and check.
- ii. The machine will stop in the following 4 cases:
 - ① When there is no material to be printed to block the photoelectric probe. Block the photoelectric probe is OK.
 - ② When the printing speed adjusting (potentiometer) knob is at the lowest speed. Turn this knob clockwise is OK.
 - ③ When the counter has reached the preset number. Reset the counter to “zero” is OK.
 - ④ When the power voltage is greater than 250 V or lower than 190 V. It is necessary to use a stable power source, the power of which should be greater than the overall power indicated on the machine.
- iii. For other specifications concerning machine operation and electricity safety not listed in this “User’s Manual”, the user should strictly observe the rules and regulations formulated by the state and the departments concerned.
- iv. The wall board and other components are precision elements, therefore, in

hoisting the steel cable should not be tied at the position other than the hoisting rings. The user will be responsible for the damage caused by violation.

- v. It is recommended to use a forklift truck to carry the machine. When the wooden packaging box is removed, the forklift truck will shovel the machine from the front (see the sketch diagram). Pay attention to the center of gravity when the machine is lifted 50-100 mm from the ground. Only when it is adjusted in balance, can the machine be carried to the place for installation, which should be a solid and even floor (The machine is permitted to be placed on the wooden base of the packaging box). Adjust the anchor bolts, and make the surface of the wall board vertical or 0.5 degrees tilted backward to the ground level.

V. Table of accompanying accessories

Name	Quantity	Remarks
User's Manual	1	Compiled by the company
Screw spanner for dismantling bearing cover	1	Special tools made by the company
Wedge for reel core	2	
Labeling plate seat	1 (assembly)	
Additional plate wheels and their matched gears of other specifications	Packaged according to contract	Manufactured according to requirement
Socket head cap spanner	1 set	Purchased
screwdriver	1	Purchased
Speed adjusting potentiometer	1	Purchased
Doctor Blade	1	
Surgical Blades	1	
Surgical Knife Handle	1	