

# Servo automatic oval printing machine

# operation manual

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#### Foreword

Welcome to use the (DPS) series full-servo oval printing machine. Please read the maintenance manual carefully before using this machine. The relevant operators must operate our machine after training and assessment by our company. Accidents caused by using this machine without training or The manufacturer is responsible for all consequences such as damage to the machine. If you have any questions or suggestions during use, please feel free to respond to our company. We will listen to you with enthusiasm and provide related services with enthusiasm. In order to ensure safety, it is strictly forbidden for unrelated people to approach, Touch the machine. When the machine fails, the machine maintenance personnel should be informed in time for repairs or our company to repair it. In addition to man-made damage or irresistible natural damage, we will provide you with free services during the warranty period, warranty Paid services will be provided after the deadline. Customers should pay attention to safety when performing self-maintenance, and maintenance personnel should be familiar with the machine and have certain equipment maintenance experience. The final interpretation right of this manual belongs to our company, and it is subject to change or upgrade without further notice.

## Catalogue

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- I. General safety rules:
- 1) (DPS) The operation, maintenance of the series of full-servo elliptical printing machines must be performed by fully trained and evaluated personnel. They must be familiar with the characteristics, functions and safety rules of the machine.
- 2) Every approved operator or maintenance personnel must carefully study this manual and understand it thoroughly before operating the machine.
- 3) The operator must follow all rules for safe operating procedures and maintenance of the machine.
- 4) (DPS) series full-servo oval printing machine is a special equipment designed for printing, and it is not allowed to be used for other purposes. It should be considered to prevent misuse.
- 5) Safety content includes: safety guidelines, safety rules, accident prevention and safety identification, and reliable and correct operation of machine tools.
- 6) In addition to the safety rules in this manual, general occupational safety rules and local safety regulations and rules must be followed.
- 7) Prevent the designed safety device and safety operating instructions from being damaged.
- 8) Prevent visible signs on the machine from being destroyed.
- 9) When the safety signs and safety devices cannot meet the safety requirements, they should be repaired or eliminated immediately.
- 10) The work place of the machine should be kept clean and tidy. Do not temporarily place any items in the machine or safety area that affect safe operation.
- 11) The installation or maintenance of electrical equipment must be performed by qualified personnel. The machine must be reliably grounded to prevent the danger of leakage. After any electrical installation or repair, the electrical safety characteristics should be tested.
- 12) Operators should not wear loose clothes; cuffs should be fastened; long hair should wear work caps; no gloves should be used for operation. It is best not to wear jewelry and other accessories when working. When needed, wear eye and ear protection products.
- 13) Lubrication points must be lubricated before starting the machine. Check that all safety devices are reliable.
- 14) Before the following conditions, the machine's power switch should be in the off position and a warning sign should be placed:

1) During inspection and measurement;

- 2) When doing maintenance, upkeep, setting work;
- 3 When removing the protective cover;
- (4) When opening the door or cover to observe the internal conditions;
- (5) When leaving the machine.
- 15) Do not remove any safety covers and covers at will during operation, and it is strictly prohibited to start the machine with incomplete safety protection devices.
- 16) It is strictly forbidden to touch the parts or components of the machine while it is running or not completely stopped.
- 17) The operator must not leave while the machine is running or not completely stopped.
- 18) For mechanical or electrical repairs, the power must be turned off first.
- 19) The machine must be cleaned regularly every day, and check the machine for abnormalities or loosening the fixing screws before each turn on.
- 20) When receiving the machine, first check whether the machine is damaged during transportation. If it is damaged, it should be recorded first and the delivery party should be notified as soon as possible.

#### **Overview of DPS Series Oval Printing Machine**

The DPS series oval printing machine can be divided into five major mechanisms: machine body, transmission mechanism, trolley mechanism, control system, and printing mechanism.



Machine body:

1. The frame of the DPS series oval printing machine is composed of ss41 steel plate, the surface is made of electrostatic coating and aluminum alloy profile, and the surface is anodized, and the side plates of the machine are painted steel plates.

2. There are laying and receiving materials at the front and back of the machine, which is convenient and fast for personnel operation. Start and emergency stop switches are provided at the front, back and sides of the machine, which is safer and more convenient in operation. (1) Transmission mechanism:

The Doppler series oval-shaped printing machine is driven by a high-efficiency and stable servo motor, with precise board travel and smooth operation.

(2) Trolley organization:

1.DPS series oval printing machine trolley, the trolley is composed of ss41 steel plate surface using electrostatic coating and aluminum platen, and has positioning devices on the front and back.

2. The printing platen on the trolley can be quickly replaced according to the size of the printing area or the characteristics of the printed matter.

#### (3) Control system:

Overview: This system controller is composed of stable high-end plc and i / o expansion module and stable servo driver.

1.Adopt advanced main control system and servo drive technology, plus international advanced programmable logic controller, stable and accurate performance.

2. The operation control system is matched with a true color touch screen to make the operation more humane.

(4) Printing agency:

1. The printing mechanism of DPS series oval printing machine, the stroke of the blade adopts an efficient and stable servo motor, and the action is fast, stable and reliable. 2. The printing scraper is equipped with a precision pressure regulating valve, which can accurately adjust the pressure of the scraper.

3. The screen of the printing mechanism can be adjusted up, down, left and right, and the blade stroke and pressure can be finely adjusted.

4. Using a suspended platen, which can be printed into clothing, the screen plate and scraper are easy to install and disassemble, saving time for plate alignment.

5.After the stencil is cleaned, repositioning the stencil does not require re-aligning the stencil, which is equally accurate.



6.Printing seat mechanism

①. Print head operation panel

\* Print head buttons: The buttons related to the print head and the whole machine. \* Scraper pressure regulating valve: The pressure of the scraper can be adjusted by the pressure regulating valve, increasing in the clockwise direction and decreasing in the counterclockwise direction.

②. Stroke sensor: Each stroker has a stroke sensor on the front and back, which controls the front and rear positioning of the scraper. When adjusting, loosen the fixed handle first, and then move it back and forth after the handle is released. , Then lock the fixed handle.

③. Printhead drive motor: The drive motor is a servo motor, which is the power of the drive scraper, and the servo driver is used for speed control.

④. Print head lifting switch: It is the mechanism that lifts the entire print head. When scrubbing the screen, it can lift the entire print head to increase the working space and make the operation more convenient and fast.
⑤. Squeegee cylinder: The scraper cylinder is used to switch between the scraper and the ink-covered scraper. The speed and pressure can be adjusted by the pressure regulating valve.

(6). Squeegee clamping device: The fixed handle is a fast handle for fixing the scraper. Relax the t-shaped handle to adjust the angle of the scraper or ink-covering knife.

网. Screen frame adjustment device: fine adjustment of the screen frame up, down, left and right. \* The left and right fine adjustment device is to adjust the screen frame left and right, rotate the screen counterclockwise to the left, and rotate the screen clockwise to the right.

\* Front and rear fine adjustment device is to adjust the screen frame back and forth, rotate the screen counterclockwise to move forward, and rotate the screen clockwise to move backward.

\* The up and down fine adjustment device is to adjust the screen frame up and down, rotate the screen plate counterclockwise to move down, and rotate the screen plate clockwise to move up.

7.Operation panel



The print head open key is used to open the print head. Press the print head once to turn on the print head power light. In the automatic running state, the print head automatically completes the printing action. Press it again to turn the print head on light off and the print head. Is off.
 Pause key, used to stop the device. Press it once, the pause light is on, and the device stops after completing the cycle action. Press it again, the pause light is off, and the machine is in the standby state.

③ Squeegee single action key, when the print head is in the pause state, press it once, the print head will scrape once.

(4) The screen frame up and down key, when the print head is in the pause state, press it once, the screen frame moves once.

(5) Auto run key. When the machine is in standby state, press it once, the auto run light will turn on, and the machine will run automatically. When the print head is in the pause state, press it once, the print head will automatically complete a single cycle action. At this time, this key can be used as a printer. Head semi-automatic key.

6 Forward key, when the machine is in standby state, press once to turn the thread body clockwise one table position.

⑦ Reverse key. When the machine is in standby state, press it once to turn the thread counterclockwise to a table position.

(8) Note: The single-action key of the scraper must be in place when the trolley is in place, and the positioning pin cylinder clamp can be moved in place; the same is true for the semi-automatic key, forward key, and reverse key of the print head. If the trolley is not at the origin, you can click the auto-run key, And then press the pause button to make the machine find the origin.

Emergency stop switch: When the emergency stop device is pressed in an emergency, the machine will stop running in emergency.



Foot switch: When running automatically, stepping on the foot switch can play a pause function, release the foot to continue running.



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Air source processor: composed of [air source switch] [air pressure adjustment] [oil-water separation] [atomization cup]



Oven signal socket, oven power socket.



#### Operation and adjustment of DPS series oval printing machine

- ( ) Preparation before starting
- 1: check if the electrical is normal
- 2: Turn the key power on and off as shown in the figure below



(Two) touch screen operation

1: After turning on the main power switch, the following welcome screen will be displayed on the homepage.

2: The welcome screen can be selected in multiple languages, Chinese Simplified--Traditional Chinese--English--Vietnamese.Select the local language used for operation according to your needs.

3: company address, company contact information at a glance.

4: Next, click the following picture to enter the monitoring operation interface.



The monitoring screen is divided into five categories

a: Main interface b: Printing parameters c: Speed setting d: Program setting e: Data query



a: Main interface operation instructions

1: date and time

2. Total production capacity = Number of production pieces: It is the number of times when calculating the automatic mode. It counts continuously except for the zero setting. For the zero setting method, click [Clear] next to the production data, and the total production capacity is automatically reset to zero.

2. Spreading time: It is to set the waiting time for the trolley to run tentatively. The time below shows the elapsed time. The time unit of the cycle setting is 0.1 second. In the cycle setting method, first click the upper box, and the number will appear. Screen, enter the desired number of seconds, and then press the enter key.

3. Turn left: It is to make the trolley go clockwise. Click [Turn Left], the trolley goes one table clockwise.

4. Turn right: It is to make the trolley go counterclockwise. Click [Turn right], the trolley goes one counterclockwise.

5. "Automatic" (automatic operation): Press the [Auto] button (in the monitoring screen) or the printhead automatic operation keyboard (printhead keys), then all the opened printing bases will start according to the set printing mode. Operation, if you want to pause halfway, you can press the "manual" button (in the monitoring screen) or the print head pause button (print head button). (Can be unpaused). b: printing parameter

<sup>FK_5</sup> time	S <sup>FK_0</sup>	ode de	elays	External	<sup>⊧ĸ_₄</sup> Head	Pla	ten ac	lvanced
0ne−c1	ick set	ting mod	ik le1	ÖK				
P10	P11	P12	P13	<u>P14</u>	P15	P16	P17	P18
mode1_	mode1_	mode1	mode1_	wr_9 ffrk <sup>0047)</sup> mode1	mode1	mode1	mode1_	wTTK0007) mode1
TIS_35 (R.388)	TB_31 (R-397)	<b>5</b> ,29 (R-996)	16,20 (8-095)		TB_15(#4393)		16_7.(R-391)	16_5.(R-390)
15_36 (R-408)	15,32 (R-407)	18_30 (R-406)	TS_24 (R-405)	18,22 (R-404)	15_16 (R-403)	15_14 (R-402)	S_8(R-401)	TS_6 (R-400)
P09	P08	P07	P06	P05	P04	P03	P02	P01
mode1	wc_19(0073) mode1	witter-10063) mode1	wr_ninkoosa mode1	mode1	w7fnk <sup>033)</sup> mode1	wr_effnk <sup>023)</sup> mode1	mode1	wr_270780003) _mode1_
18_33 (8.318)	16,27(H-317)	TS_25(#-918)	16_19( <b>8-919</b> )	TB_37 (#-314)	TB_11 (R-213)	15-9:19-3121	16_3(R-311)	16_3.(R-310)
15.0+ (R-328)		15.20 (R-320)	18_20 (R-325)				18.4 (R-321)	
<b>komepa</b>	ge	printin	ng	speed	B_0(R-212) Pro	cedure	Data	Query

b1: Printing times: refers to adjusting the number of scraping times of each print head. Click the +,-at the top and bottom of the box to increase or decrease the number of scrapers. ) One-click setting: Enter the number of scrapers for all print heads to set the number of scrapes uniformly.

b2: Printing mode: refers to the adjustment of the scraping mode of each print head, which is divided into 4 modes: [Ink Conventional] [Water Slurry Conventional] [Ink Continuous] [Water Paste Continuous]. Click the square up and down +, — to adjust,

One-click setting: set the scratch mode for all print heads with one click. b3: Delay setting: the delay of the overall head's falling and rising time, the delay of the positioning cylinder time, and the rising and falling time of the scraper action.

Automatic running time prompt time: refers to the warning light [didi] three seconds before the machine starts to run automatically.

Prompt time for turning the board: It means that the machine will not operate until you press and hold the print button panel [forward] [back] for 2 seconds.

Flash drying mode: adjust [start when turning the board] [start when automatic] [start when turning forward] to give the oven start signal.

Squeegee direction: adjust the scraper [inside to outside] scraping, [outside to inside] scraping mode.

Mode selection: [Regular mode] [Fast mode] refers to normal running production and fast running production.

After adjusting the parameters above, you need to click [Parameter Writing] to take effect immediately, otherwise you need to turn on the next time to take effect.

<sup>FK_12</sup> times m	node delay	vs External	Head	Platen	advanced
<mark>™.</mark> Head down de	elay:##.###*s	Scraper	delay ri	.se: ##.##	₽"S
Head up de	lay: ##.##S	<sup>TX_2</sup> Scraper	(fall tin	ne): ##.##	Ê'S
<sup>™</sup> Location del	lay: ##.##\$	™_4 Scraper	(rise tim	ne): ##.##	₽'S
Prompting ti	ime: ###.#S	Flash	drying mo	ode: Aut	to start
™ Transfer tip	time:###.#S	Scrape	r directio	on: [S_1 (R-2420)]	nside
			TX_11	Regu	lar mode
$_{_{\rm FL0}}^{\rm TL8}$ After the c	delay is set	, click the	paramete	r write"	button.
⊾ homepage	printing	speed	Proced	lure Da	ta Query

b4: External device

Press setting: Press machine 1, press machine 2, close the opening interface, press time setting.

Digital printing: digital machine 1, digital machine 2, close the opening interface, digital timeout setting.

Flocking settings: flocking machine 1, flocking machine 2, close the opening interface, flocking time setting.

<sup>K</sup> igital prin	ting <sup>®</sup> Press set	tin <mark>Flo</mark>	cking	setting		advanced				
P <mark>res</mark> Pres	Press 1 3 1 to shut down sing time###.	1 <mark>.</mark> #'		Pr Press 2 Pressir	ess . to shu ng tim	2 it down <mark>.</mark> ne <b>###.</b> *#				
⊾ homepage	printing	spee	ed	Procedu	ire	Data Query				

#### b5: Machine head setting

[One key to open the machine head] [One key to close the machine head] refers to one key to open and close all the yin head scraper motors.

[One key to open and stop] [One key to close and stop] refers to one button to open and close the pause function of all print heads.

<sup>FK_10</sup> time	S <sup>FK_0</sup>	iode d	elays	Externa	l Head	d <sup>FK_S</sup> P1a	iten a	dvanced
T_0 (R-217) A11	heads o	pen. A11	heads s	top A11	l open st	79_3 (R-21a) .Op .	All stop	
P10	P11	P12	P13	P14	P15	P16	P17	P18
Head	Head	Head opening	Head opening	Head opening	Head opening	Head	Head	Head
rs_39 (R-1878) Head stop	15_35(R-1877) Head stop	rs_33 (R-1876) Head stop	rs_27 (R-1875) Head stop	rs_25 (R-1874) Head stop	rs_19 (R-1873) Head stop	rs_17 (R-1872) Head stop	15_11 (R-1871) Head stop	15_9 (R-1870) Head stop
P09	P08	P07	P06	P05	P04	P03	P02	P01
Fs_36 (R-1848) Head opening	rs_30 (R-1847) Head opening	rs_28 (R-1846) Head opening	TS_22 (R-1845) Head opening	rs_20 (R-1844) Head opening	TS_14 (R-1843) Head opening	rs_12 (R-1842) Head opening	Head opening	<sup>rs_4 (R-1840)</sup> Head opening
rs_37 (R-1868) Head stop	15_31 (R-1867) Head stop	rs_29 (R-1866) Head stop	rs_23 (R-1865) Head stop	rs_21 (R-1864) Head stop	rs_15 (R-1863) Head stop	rs_13 (R-1862) Head stop	rs_7(R-1861) Head stop	rs_5(R-1860) Head stop
homepa	ıge	print:	ing	speed	95_0 (R-212) Pro	ocedure	Data	Query

b6: Table setting [Springboard function]

The springboard function start button, the current platen number is calibrated, and the bad platen number is set after the calibration, and the unnecessary platen is set to non-printing mode.

<sup>FK_6</sup> ti	times <sup>FK_1</sup> mode			delays Exten		rnal	<sup>FK_5</sup> Hea	d FK.	Plater	advanced
Båd table number Plate number:										
01	NE_0 (DT-212	##	02	NE_1 (DT-21211) ####	<b>#</b> 1	03	NE_2 (DT-21212) ###	##	04	<sup>NE_3</sup> (0T-2)21 <sup>3</sup> ###
05	NE_4 (DT-212	##	06	NE_5 (DT-21215)	<b>‡</b> 1	07	NE_6 (DT-21216) ###	##	08	NE_7 (DT-21217) ####
09	NE_8 (DT-212	##	10	NE_9 (DT-21249) ####	<b>‡</b> 1	۲ſ		##	12	NE_11 (DT-21821)1 #####
13	NE_12 (DT-21	##	14	NE_13 (DT- <u>31823)</u>	<b>‡</b> 1	15		ŧ#	16	NE_15 (DT-31828) ####
17	NE_16 (DT-21	##	18	NE_17 (DT- <u>31827)</u>	<b>‡</b>	19	NE_18 (DT-21228)	##	20	NE_19 (DT-31/22)/ ####
<b>Š</b> ₽ri	ingbo	ard mod	© TS_0 (R .e	<sup>-2410)</sup> Clos	е	ľ		FK 0	late c	alibration
	Note: bad platen is input into the form. If you do not use the form, please input 0.									

#### b7: Advanced settings

Click to enter the interface shown below [Communication control] [Head switch] [Panel control] [System settings] The following functions are set and adjusted by the manufacturer



#### System settings

Enter by password to debug by the manufacturer,

Parameter write 1: Debug and adjust the machine operating parameters [factory setting], positioning release, positioning lock, screen frame lock release button

Write in	System parameters 1 Parameter 2 advanced
Run forward	<sup>™</sup> ####################################
Debug forward	<sup>™</sup> ####################################
<sup>™</sup> running speed	<sup>**</sup> ###################################
acceleration time	, <b>*########</b> Acceleration time <b>*######</b> ####
Deceleration time	"#####################################
Head speed	*########## Nose acceleration time *####################################
Manual speed	<sup>™</sup> ####################################
	debugging
TS_7 (R-205) Head up	orward <sup>TS_9</sup> (1807) orward <sup>TS_9</sup> (1807) Net frame lock
debugging	shift "####################################

Parameter write 2: set the machine head value, change the password, etc. [set by the manufacturer]

FK_1	FK_3	Pa	rameter	2 <b>\$</b> 3	vstem pa	rameters	s 1 adva	anced
P10	P11	P12	P13	P14	P15	P16	P17	P18
####	####	####	####	####	####	####	####	+++++
P09	P08	P07	P06	P05	P04	P03	P02	P01
NELESCETTO (SHE) ####		NET # 4410 T224(2012) #####	NELLSARTER <mark>(240)</mark> ####		N##7#17#18#880			####
						Dig	ital 2	Digital 1
						N		####
Extensi	on numb	er ##	Tabl	let and:	####	02)	<b>0</b> 'n≇in∉	₽ <b>₩</b> #####
			System pa	ssword modifi	cation			
ord passwo	ord <b>***</b> *	*****		new password	1 <b>*****</b>	****	rs_0 (i mo	R-225) dify
			WL_0 (DT-506)					

Printir	ng spee	d Ink co	ver spe	ed Troll	ey Spee	ed	-				
Öne-click settings: <sup>■_0</sup> (7#80)											
P10	P11	P12	P13	P14	P15	P16	P17	P18			
ND_17 (#-10084)	ND_15 (01-10074)	ND_14 ( <b>PF</b> -10064)	ND_13 ( <b>DT</b> -10054)	ND_12 ( <b>PT</b> -10044)	ND_11 ( <b>PT</b> -10034)	ND_10 (PF-10024)	ND_9 (010014)	ND_8 ( <b>P#</b> 10004)			
15_35 (12:338)		15_29 (R-236)		15,25 (R-254)	16,23 (R-333)	15_21 (R-352)	15_19 (#.331)	15_17 (R-230)			
15_36 (R-348)	18_32 (R-347)	15_30 (R-346)	15,28 (R-345)	15_26 (R-344)	TS_24 (R-343)	18_22 (R-342)	15_201R-341)	TS_18 (R-340)			
P09	P08	P07	P06	P05	P04	<u>P03</u>	P02	P01			
ND_16 ( <b>P</b> -10080)	ND_7 (0010070)	ND_6 (#10060)	ND_5 (DF 10050)		ND_3 (0010030)	ND_2 ( <b>D</b> +10020)	ND_1 (00010)	ND_0 (000000)			
15_33 (R-258)	15_15(R-257)	15_12(R-256)	15_11 (#-255)	15_9(R-254)	15,7 (H-250)	18_5 (P-252)	15_3 (#251)	15_1 (#-250)			
5_34 (R-266)	TB_18 (R-267)	Ì5_14 (R-200)	TB_12 (R-265)	15,,10 (R-264)	TE_8 (R-203)	18_5 (R-262)	15_4 (R-201)	TS_2 (R-260)			
<del>o</del> homepa	ge	o printi	ng	speed	16_0 (R-212 Pr	ocedure	Data	Query			

#### c: speed setting

Press the speed setting key, the following screen will appear: [Printing speed]

Each square box represents a print head. Click the +, - at the top and bottom of the box to increase or decrease the speed. The speed is divided into 1-9 segments. The larger the number, the faster the speed. "One-click setting" is to set the speed of all print heads. Enter the corresponding number and press [OK] to complete the setting. Ink speed setting: Press the Ink speed setting key, the following screen will appear:

Printir	ng spee	d Înk co	ver spe	ed Troll	ey Spee	d		
<mark>0</mark> ne−c1	ick set	tings: 🕻	_0 (DH861)	<sup>R-</sup> OK				
P10	P11	P12	P13	P14	P15	P16	P17	P18
#	TR: 75 (0)-10075		#	TEC OFFICE AND A TO A T	#	# #		#
TS_26 (R-368)	15_32 (R-367)	TS_30 (R-305)	TS_23 (R-305)	TS_26 (R-364)	15_24 (R-363)	TS_22 (R-362)	18_20 (R-361)	TS_15 (R-360)
P09_	P08	P07	P06	P05	P04	P03	P02	P01
ND 16 (DT-10081)		Committee and a second s	Contraction of the local division of the loc	and the second se				
#	₩D_7 (D#10071) #	ND_6 (DF 10061) #	ND_5 (0010051)	ND_4 (DF(10041))	ND_3 (00110031)	ND_2 (00110021)	ND_1 (DE10011)	ND_0 (0001) #
#			ND_5 (0051)	ND_4 (90041)	ND_3 (0031)	ND_2 (0021)		
15.23 (4.979) 15.23 (4.979)			ND_5 (0010051)					
homepa		printin	10-5 (#10051) 11 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	speed		vocedure	VD_1 (# 0011) VD_1 (# 0011) CONTRACTOR NOTION	Query

\*\* Each box represents a print head. Click the +, — at the top and bottom of the box to increase or decrease the speed. The speed is divided into 1-9 segments. The larger

the number, the faster the speed. "One-click setting" is to set all prints. Head speed, enter the corresponding number and press [OK] to complete the setting.

#### d: Program setting

Program settings

Proce	edure op	otic <sup>FK_1</sup>	Procedu	re 🈽	rogram:	#Nam	e <mark>AAAA</mark> AA	AAAA
Cast St	ep Ste	p # Nest	step	mes 🛱	# Sa	7e		
10	H	12	13	14	15	16	17	18
OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
				Pre	eservat	tion	1	
OFF	OFF	OFF	OFF	(0FF) C	COFF et	C C OFF	OFF	OFF
09	08	07	06	05	04	03	02	01
ks homepa	ıge	printin	ng KJ	speed	se_0 (R-212) Pro	cedure	Data	Query

#### Program selection

Procedure of	option SB_0 (R-212)	Procedure			
$\underset{number}{\overset{\text{ME_0}}{\#}}$	Name: M	MA AAAAAA			
Procedure 1:	ÅÅÅÅÅÅÅÅAAAAA	Procedur	e 6:	A-A'A-A'A'A'A'A	AAAA
Procedure 2:	<b>ÅÅÅÅÅÅ</b> AAAA	Procedur	e 7:	<u> </u>	AAAA
Procedure 3:	<b>Ä-Ä<sup>-</sup>Ä-Ä-Ä-</b> ÄAAAAA	Procedur	re 8:	<b>Å</b> -Å <sup>2</sup> Å <sup>5</sup> Å <sup>2</sup> Å	AAAA
Procedure 4:	<b>Ä-À'Ä<sup>*</sup>Ä</b> AAAAA	Procedur	e 9:	<b>A-AAAAA</b> A	AAAA
Procedure 5:	AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	Procedur	re 10:	A-AAAAAAA	AAAA
			4.(0.040)		x .
homepage	printing	speed	Proce	edure	Data Query

#### e: Data query

Slave io meter: Enter the following screen to monitor the operating status of the sensor signal input from all print heads in the slave station.



Host io meter: Enter the following screen to monitor the operating status of all sensor signal inputs and outputs of the master station.



Current alarm: It is used to display the abnormal information of the machine to help the operator quickly find and troubleshoot the machine. When the system has an

abnormal alarm, please check the cause of the abnormal display and refer to the troubleshooting method provided in this manual to eliminate it.

Clear servo alarm: servo alarm clear, alarm clear.



Historical alarm: The fault history of the printing press will be recorded in the following screen, which can clearly query the occurrence and time of the fault.

Vice	device	10	Main	device	10	Current	alarm	Alarm	Recort
<sup>ED</sup> ↓ <sup>(6</sup> 87)/	'06/20 15:3	5:58	Number	1 servo m	notor	alarm		▲ ▶	Effininate         Servo alarm
o home	page	p:	rintir	ıg		speed	Proced	lure	Data Query

#### Capacity

Monthly production capacity: Record the total daily production volume in the month,

<sup>FK_5</sup> Vice device	10 <sup>FK_M</sup> ain device	e IO <sup>FK_9</sup> Current	alarm Alarm	Recor Capacity
™ Monthly da	ata <sup>®</sup> Annual da	ita		
01	08	15	<b>つづ</b>	20
02	09	16	23	30 <del></del>
03 ######	10	17	24	31 *****
04 ######	11 ######	18 ######	25 ######	
05 ######	12	19 #####	26	
06 ######	13 <mark>#####</mark>	20 <mark>#####</mark>	27 ######	
07 #####	14 <mark>######</mark>	21 ######	28 #####	
homepage	printing	speed	Procedure	Data Query

Annual capacity: record the total monthly production volume in the year,

Vic	ce devid	ce IO	Main	device	I0 Cui	rent	alarm	Alarm	Record	l Capacity
FK_9	lonthly	data	Ann <sup>®</sup>	ual da	ta					
01		###	04	10, 3477331436) H H H H H	###	07	10, 3 (CT13) 498 V ( 	###	10 🗄	****
<mark>0</mark> 2	╫╫╫	###	05		###	08	19.30731460 	###	11 🖁	₩₩₩₩₩
03	######	###	06	┞╫╫╫	###	09	╫╫╫╫	###	12 🖁	<b>#########</b> #
	annua	l out	put:	*####	#####	### P	CS			
	total	out	put:	°###†	#####	### P	CS			
	Total	run	time	: ####	#####	###.	#H			
k_™ ho	mepage	- <del>R</del> .	printi	ing	spe	eed	38_0(R-212) Pro	cedure	Dat	a Query

Note:

1. Before entering the equipment area to eliminate the abnormality, please press the stop switch or the emergency stop switch and place the maintenance warning sign before entering the equipment to avoid accidents.

2. During the automatic operation of the machine, do not put your body into the machine to avoid accidents and machine malfunction.

3. When the machine malfunctions or the motor cannot stop running, please press and hold the "emergency stop switch" to reset the machine.

4. After the abnormality is eliminated, press the start button again to continue "running". The common abnormal display information is as follows:

project	Fault content	Method of exclusion	Remark
1	Emergency stop emg: indicates that an emg is pressed in the system	First check which emergency stop is held down and then release it (clockwise will pop up)	
2	Communication error: indicates that all PLCs are not connected	<ul> <li>a. Check whether the DC24V power supply is connected to each substation</li> <li>b. Check if the communication indicator on each PLC is blinking</li> </ul>	
3	No control power dc24v	<ul> <li>a Check if the power switch in the main electrical box is turned on</li> <li>b. Check whether the air switch of the switching power supply has tripped, and if so, turn it on.</li> <li>c. Check whether the switching power supply is damaged, and if it is damaged, update it.</li> </ul>	
4	Trolley positioning abnormal: indicates that the trolley has not reached the positioning	<ul><li>a.Check whether the positioning pins of each trolley are clamped in place.</li><li>b. Check whether the positioning sensor of the trolley is damaged.</li><li>c. Adjust the position of the magnetic reed switch so that the light is on.</li></ul>	
5	Print head servo abnormal: Different print head servo motors	<ul> <li>a.Check whether the servo motor is powered on, and whether the wiring and plug are plugged in.</li> <li>b.Check whether the corresponding servo driver in the electric box is flashing abnormal code and troubleshoot according to the code.</li> </ul>	
6	The positioning under the screen frame is abnormal,	<ul> <li>a Check if the manual operation of the screen</li> <li>frame cylinder is normal</li> <li>Adjust the position of the magnetic reed switch so that the light is on.</li> </ul>	
7	Printing timeout	<ul> <li>a.Check whether the blade positioning sensor is normal, which can be viewed by the touch screen</li> <li>b. Check whether the positioning cylinder sensor is normal</li> <li>c. Check if the servo motor circuit is in good contact</li> </ul>	
8	Ink overtime	<ul> <li>a.Check if the ink-covering knife positioning sensor is normal and can be viewed by the touch screen</li> <li>b. Check whether the positioning cylinder sensor is normal</li> <li>c. Check if the servo motor circuit is in good contact</li> </ul>	

AL01	Overcurrent
AL02	Overvoltage
AL03	low voltage
AL04	Motor magnetic field position
AL05	Rebirth error
AL06	Overload
AL07	Excessive speed error
AL08	Abnormal pulse control instruction
AL09	Excessive position control error
AL10	Chip execution timeout
AL11	Encoder exception
AL12	Correction anomaly
AL13	emergency stop
AL14	Reverse limit anomaly
AL15	Forward limit anomaly
AL16	igbt temperature abnormal
AL17	Memory exception
AL18	Encoder output is abnormal
AL19	Serial communication error
AL20	Serial communication timeout
AL22	Main circuit power phase loss
AL23	Pre-overload warning
AL24	Encoder initial magnetic field error
AL25	Encoder internal error
AL26	Encoder error
AL30	Motor collision error
AL31	Motor u, v, w, gnd grounding error
AL99	dsp software upgrade

#### Attachment: Delta Servo Driver Exception Code

#### Fourth, the printing machine operation mode

1. Turn on the power of the air compressor and make the air pressure reach 6kg. 2. Turn on the main power key switch.

3.Switch the man-machine interface to the monitoring mode, and set the time of the [layout delay].

4. Place the test print on the trolley and lay it flat on the table.

5. Click the start button to move the test print trolley to the first color print head.

6.Place the first color screen on the first color printing base, and adjust the screen to the appropriate position.

7. Press the "screen frame lift key" to switch to the lower position of the screen frame, pick up a small amount of dye with a small spatula, and scratch the triangle mark for plate registration.

8. Press "Screen frame lift key" to switch to the upper position of the screen frame and press the start key to move the print to the second color print head.

9.Place the screen of the second color under the print head of the second color, press the "screen frame up and down key" to switch to the lower position of the screen frame, adjust and align the triangle mark for screen printing, and align it in the trial printing Triangle mark on the film. (Use the screen adjustment device to do the screen alignment operation.)

10.Repeat steps 6-10 to proofread all the editions.

11.Install all the scrapers and ink-covering knives to be printed and fix them on the scraper holder.

12. Move the stroke sensor on the print head, adjust the scraper and ink covering stroke of each color print head, adjust to the appropriate position and lock the small handle. 13. Pour the dye of the first color evenly on the screen of the first color.

14. Move the test print trolley to the first color print head, press the "screen frame lift key" to switch to the upper position of the printing plate, press the scraper key to cover the ink refilling knife, and use the pressure to fine-adjust the handle to adjust the ink refill Evenness.

15.After the ink adjustment is completed, press the "screen frame lift key" to switch to the lower position of the printing plate. Press the scraper key to allow the scraper to scrape the print. Use the pressure to fine-tune the handle to adjust the printing uniformity.

16.Repeat the steps from 14-17, adjust the printing blade and ink-covering knife of each color printing base to the appropriate pressure and angle, so that the quality after printing meets the requirements.

17. When trying to print a small number of samples, first place the samples on the trolley and lay them flat on the platen.

18.Press the start key to move all sample carts under the first color print head, and press the stop key to stop the cart under the first color print head.

19. Press the "screen frame lift key" to switch to the lower position of the printing plate, press the scraper key to make the blade scrape. After printing, press the "screen frame lift key" to switch to the upper position of the printing plate so that the screen is on the printing plate Position, and then press the squeegee key to cover the squeegee with ink.

20.Repeat steps 18 and 19, print each color on the trial print sample, and dry the oven to complete the sample printing.

Front and rear fine-tuning nuts: Set the plate for fine adjustment before and after.

Mesh distance adjustment: fine adjustment through the upper and lower adjustment nuts of the screen frame



Left and right trim nut: Set the left and right trim of the board.

Print head base locking: After adjusting the screen distance, lock the print head base with the I-shaped handle to prevent left and right swing.



#### V. Precautions for printing machine operation

1. When the printing machine wants to stop, it must be shut down according to normal procedures. When the machine is still running, press the stop button first; when the machine is in the stopped state, turn off the main power switch on the man-machine interface. It is strictly forbidden for the operator to turn off the power directly when the machine is running.

2. When the printing machine is running, if it encounters insufficient voltage or power, the operator must stop the machine in time and turn off the power to protect the parts of the control system and the PLC program.

3.When operating the plate up and down in the manual operation mode, you must make sure that the position of the trolley has reached the positioning before you can manually operate the plate up and down.If you cannot determine whether the trolley has reached the positioning, you can pause all the print heads. Turn off, press the start button and then press the pause button, the trolley will automatically walk to the positioning and stop.

4.Be sure to turn off the power of the print head before lifting the print head, otherwise it may cause serious machine damage and even personal injury. 5.The track of the machine is kept as clean as possible, and the state of lubricant is always kept. It is strictly forbidden to enter the track. If there are pieces or foreign matter entering the track, the operator must immediately stop the machine and remove the pieces or foreign matter. Only start the machine when there is no foreign matter in the track. It is strictly forbidden to start the machine when there is foreign matter in the track.

6.Please strictly observe the above items, and pay attention to it from time to time, the machine can keep normal operation.

7.If the machine is subject to technical upgrades and improvements, it will not be further notified.

Serial	Maintenance inspection content	Cycle /	Remark
number		frequency	
1	After the work is completed, the printing base body is stained with the paste part, and it must be wiped clean one by one	daily	
2	When the machine is turned on, you must check whether each lamp in the drying box is normal, so as to avoid some damage that can not achieve the drying effect, and even cause quality problems of the silk screen of the cutting piece.	daily	
3	The indoor environment in which the machine is placed must be kept clean and tidy, especially at the cutting area, and it must be cleaned with cotton dust and dust after work	daily	
4	Check whether the bolts of the bearings that each trolley is in contact with the wire guide are loose and fall off. If any abnormalities are found, they must be tightened or replaced immediately.	weekly	
5	Inspect the pneumatic components and the joints of the air circuit for leaks or broken tubes	weekly	
6	Remove debris on the cylinder's sliding shaft and add engine oil appropriately to ensure good lubrication effect	weekly	
7	Check if the machine's air filter has too much stored water and drain it in time.	every day	
8	Drain the air compressor to prevent moisture from entering the air duct and damage the pneumatic components of the machine	Four times / week	
9	Remove debris from the servo motor to maintain the normal use effect and service life of the motor	per month	
10	Move the fan of the oven for cleaning, while ensuring the normal service life of the heating tube, and ensure a good drying effect	per month	
11	Use industrial alcohol to wipe the dust and other debris on the surface of the infrared heating tube in the mobile oven to ensure the use effect and service life of the heating tube	per month	

#### Sixth, maintenance and inspection matters

### Inspection and lubrication table

Lubrication area	lubricating oil	cycle	Responsi ble	Remark
Linear guides, sliders, shaft bearings	Motor oil n46	Once per shift		
Chain, round rail, auxiliary rail	Gear butter	Once per shift		
Air source two-piece	Pneumatic turbine oil No. 1	Once per shift		





annex









## Packing List

## **Oval printing machine**

Seria l num ber	Name and specification	Quantity	Remark
1	Host	1 set	
2	Rubber particle locator	1	Initially set with elliptical machine
3	Film positioner	1	Initially set with elliptical machine
4	Mesh frame rubber particles	500	φ20
5	Toolbox	1	Randomly attached
6	Manual	1 serving	
7	Certificate of conformity	1 serving	

Packing inspector: date

# DPS Machinery Certificate of Compliance This product passes the inspection and is allowed to leave the factory

Machinery name

model

Body number

Inspectors

date

Certificate of Quality

This product has been dispatched under satisfactory functional tested and inspected in accordance with the conditions and requirements of the manufacturer.

MACHINE	
MODEL NO.	
SERIAL NO.	
CHECKED BY	
DATE	