ATMAGP 25PP

CCD Centered Registration Screen Printer for micro-precision printing on Smart Phone Cover Lens, and many other rigid materials for high-tech industrial applications.

Application :

Dedicated to fully automatic centered registering for high precise printing onto cover lens without target along with other rigid materials that requires unrivaled precision for high-tech industrial quality applications.

Characteristics :

Machine Framework :

1) Consist of registration and printing section, linked by the sliding table to transport the cover lens and manually offloading after printing.

2) Electrical power mechanism, minimizes the compressed air exhaustion, air compressor 1/2HP is necessary to drive the machine, energy saving in long term is converted into cost 30% less.

3) Vertical and horizontal section are made of Aluminum alloyed to be embodied formation, coordinate with linear guide rails to raise precision and durability to support strong loading force, stable and silence without noise.

4) Oil-free FRL unit does generate pollution circumstance of air emission and oil mist, suitable for using in clean room.

Sliding Table Structure :

1) Transmission of the sliding table is driven by servo motor + timing belt to transport fast and stable.

2) Positioning of the sliding table is adopted hydraulic buffer + magnetic, precise positioning achieves 0.005mm.

3) Transportation of the sliding table adopts pulse position control.

4) Collocated with the silence vacuum pump to avoid the aligned substrate on table top displacement.

Registration Platform Structure :

1) Sliding table top lamination is made of the machined Aluminum alloyed plate with thickness 12 mm, surface is treated by hardness treatment to prevent scratching, enable to achieve zero off-contact printing, 4 pieces of pop-up pins are added on table top.

2) Registration system software works with IPC program operation to achieve rapid movement registering.

3) Registration platform adopts 3 sets of servo motor to control X/Y/θ three direction, utilized CCD system judges automatic control the table displacement amount. High precise transmission structure, table automatic micro-adjustment alignment, precision of repeatability alignment is achieved 0.005mm. Fast speed (including target searching, alignment, inspection) less than 1.5 second per piece.

Printing Structure :

1) Pneumatic squeegee / flood coater up down device enable to get mounted the screen and cleaning ink quickly, printing head enable to match printing position to extend toward front 40mm.

2) Printing stroke adopts brushless DC motor with encoder to collocate linear guide rail to drive speed extremely fast and precise printing stroke positioning.

Screen Structure :
1) Equipped with sensor, if the printing stroke distance is set incorrect, screen frame and holder will not be impacted damage.
2) Strong structure of screen frame holder to match standard screen dimension design, screen frame holder displacement can be adjusted easily and fast.
3) Screen up down adopts German gear motor, collocated with high leading screw rod and encoder, digitally control screen up down rapidly and silent stable, and precise positioning.
4) Equipped with pneumatic screen frame holder, leveling adjustable.

Control System :
1) Adopts 7.5 inch color touch-screen, detailed setting versatile operation function and parameters, enable to save and retrieve quickly to achieve numeric management printing quality.
2) Backlight shooting image : used for single size for multi-printing, directly catch glass edge to obtain registration.
3) Equipped with 2 groups 4 sets of CCD with backlight device to shoot image, use manual screw rod to adjust XY position, single group (2sets of CCD associated movement) adjusted position, one of all groups CCD minimizes scope 40x40 mm, CCD camera height (WD) 150 mm.
4) Instant registering data can be saved onto flash ram or any internet media.
5) Possessed Chinese / English operation interface (language file can be changed)
6) Digital HMI interface control, operational setting can be glanced completely to correspondence with various printing requirement, raise efficiency of production management to control consistence quality.

Safety Device :
1) Display function of automatic error diagnosis, explicit guidance for quick troubleshooting.
2) Equipped with emergency stop switch to provide emergency stop.

Specification :

Item	Descriptions	ATMAGP 25PP
Equipment Spec :		
1	**Machine dimensions (mm, WxDxH)**	**1050 x 1250 x 1680**
2	**Net weight**	**435kgs**
3	**Table height**	**980+50mm**
4	**Substrate thickness**	**0.3 - 2.0mm**
5	**Productivity (non-stop full speed full stroke)**	**550 P/H**
6	**Air pressure**	**5-7kg/cm2**
7	**Air exhaustion**	**6.75L/cycle**
8	**Power consumption**	**1.5kw**
9	**Power source**	**3 ∮，220/380V，50/60Hz**
CCD Specification :		
10	**CCD number**	**4 sets**
11	**Light source type**	**coaxial light (front light source)**
12	**Target shape**	**Glass edge**
13	**CCD position regulation**	**Manual inward adjustment (2 sets synchronously)**
14	**CCD picture pixel**	**640x480**
15	**CCD FOV**	**7.5x5.6mm**
16	**CCD+ coaxial light source from table top**	**102mm**
17	**Image registering precision**	**Centered ±0.04mm**
18	**Integration accuracy**	**Centered ±0.05mm**
Printing Head Spec :		
19	**Printing speed**	**135～675mm/sec**
20	**Printing stroke**	**0～260mm/sec**
21	**Adjustable pressing depth**	**10mm**
22	**Squeegee / flood coater descending distance**	**35mm**
23	**Squeegee skew angle**	**0°～20°**

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	Item	Discriptions	ATMAGP 25PP
	24	Flood coater skew angle	70°～90°
	Screen Frame Spec :		
	25	Max frame O/D size	W500xD350mm
	26	Min frame O/D size	W350xD250mm
	27	Screen frame thickness	20～40mm
	28	Frame locking	locked by 4 cylinders
	29	Registration table displacement range	X、Y：5° θ：2.406°
	30	Screen upward height	0~310mm
	Sliding Table Spec :		
	31	Table size	350x350mm
	32	Vacuum area	W150xD110mm
	33	Vacuum hole pitch	15x15mm
	34	Vacuum hole size	ψ2.0mm
	35	Max printing area (W x D)	160x110mm
	36	Vacuum mode	Vacuum pump
	37	Sliding table back and forth distance	400mm
	38	Sliding table back and forth speed	1200mm/sec
	39	Sliding table back and forth position	0.005mm
	Safety Spec :		
	40	Emergency stop switch	enclosed
	41	Automatic error diagnosis display	enclosed