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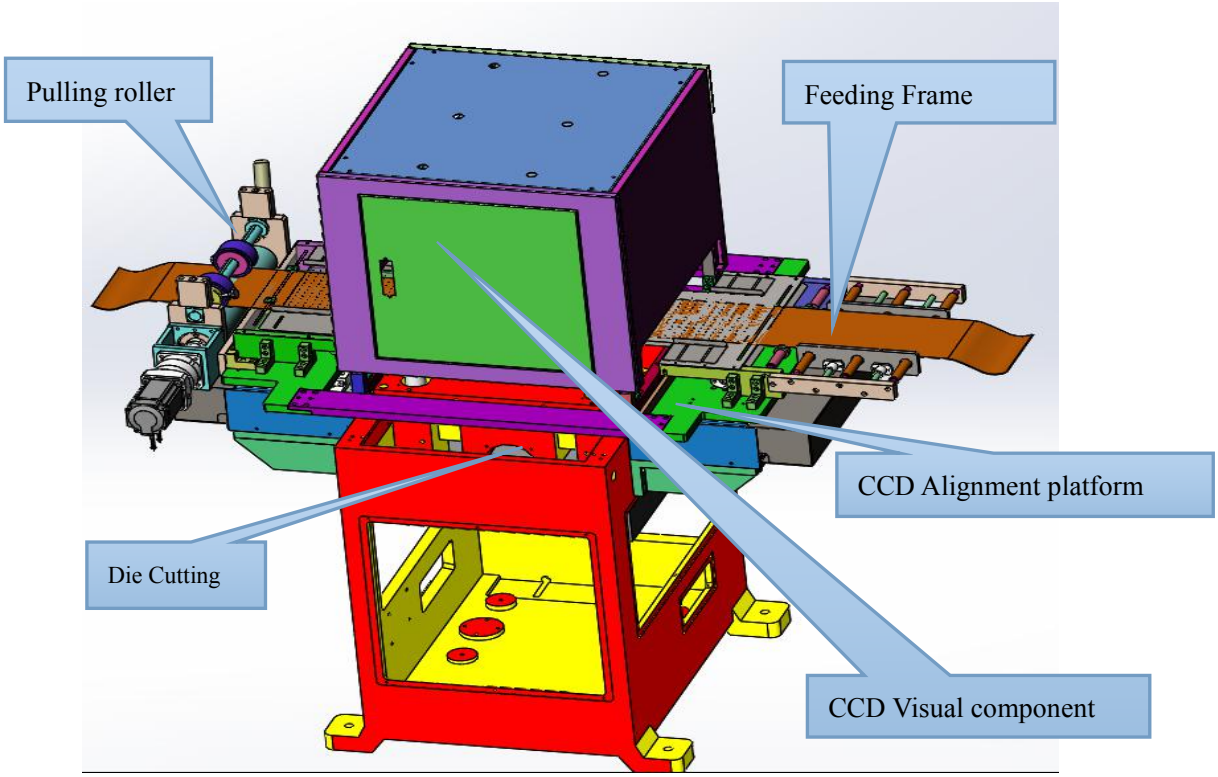
Roll To Roll CCD Regulation Die Cutting Machine

一、Equipment description: CCD roll-to-roll die cutting machine is a kind of automatic die cutting equipment with high precision and high efficiency. Among them, the equipment mainly includes: CCD mobile platform, high-precision XY θ alignment platform, material pulling mechanism, guide mechanism, unwinding mechanism, punching mechanism. The die-cutting machine has the functions of automatic material pulling, automatic alignment, automatic slicing, etc., and separates the finished products and waste materials according to the prescribed track. Once the equipment is adjusted, it will be completed automatically without any operation of the machine. The figure below is the machine design drawing and physical picture of the die cutting machine.



Die Cutting machine plan 1

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Die Cutting machine plan 2

二、Brief introduction of important parts of equipment

This equipment mainly includes a die-cutting unit. On both sides of the die-cutting unit, a CCD mobile platform, a high-precision XY θ alignment platform, stable alignment and small jitter, man-machine interface control + button switch, can set a variety of functional parameters, easy operation ; CCD automatic positioning punching, can automatically adjust the CCD field of view according to the size of the material. The CCD automatically calculates the spatial position of the material and the mold according to the MARK point on the material, and instructs the motor to control the movement of the adjustment platform XY θ to automatically punch.

1. Alignment XY θ platform: The XY θ platform is the core part of the machine, which is used for CCD visual alignment. The alignment platform is composed of XY θ 4 axis and has the function of alignment eccentricity.The alignment accuracy can be controlled within 0.02mm.

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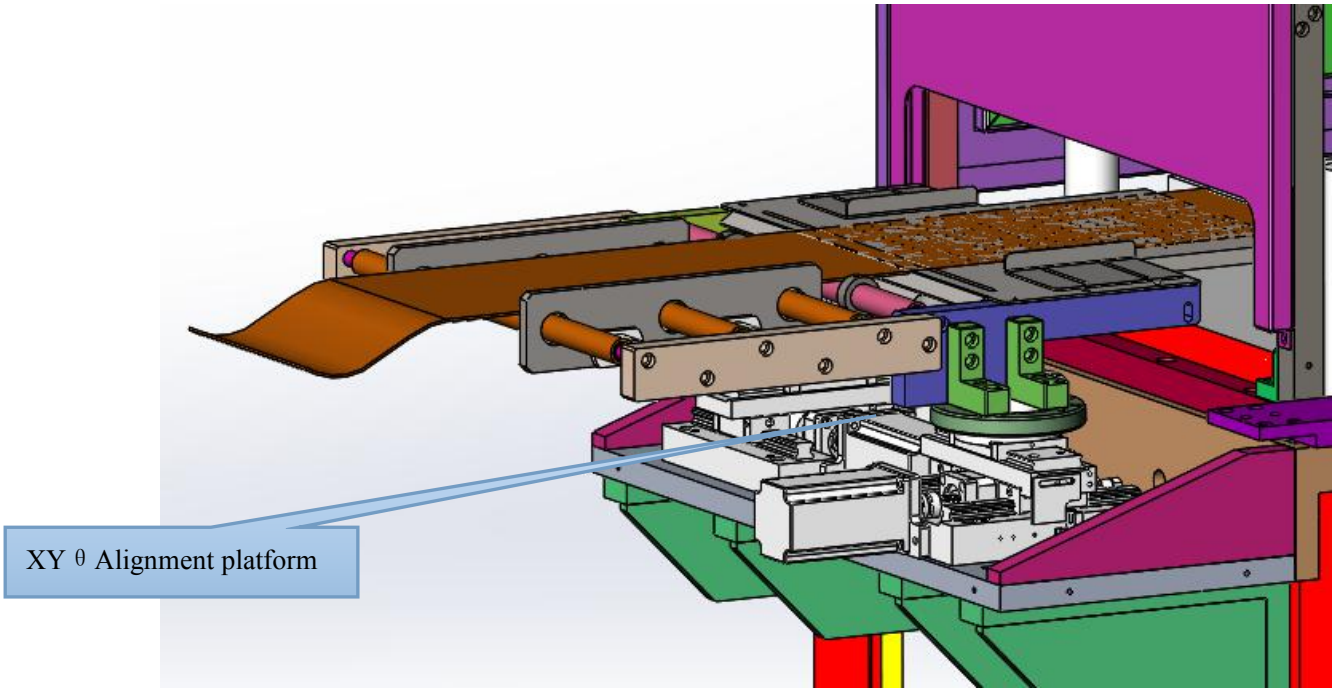

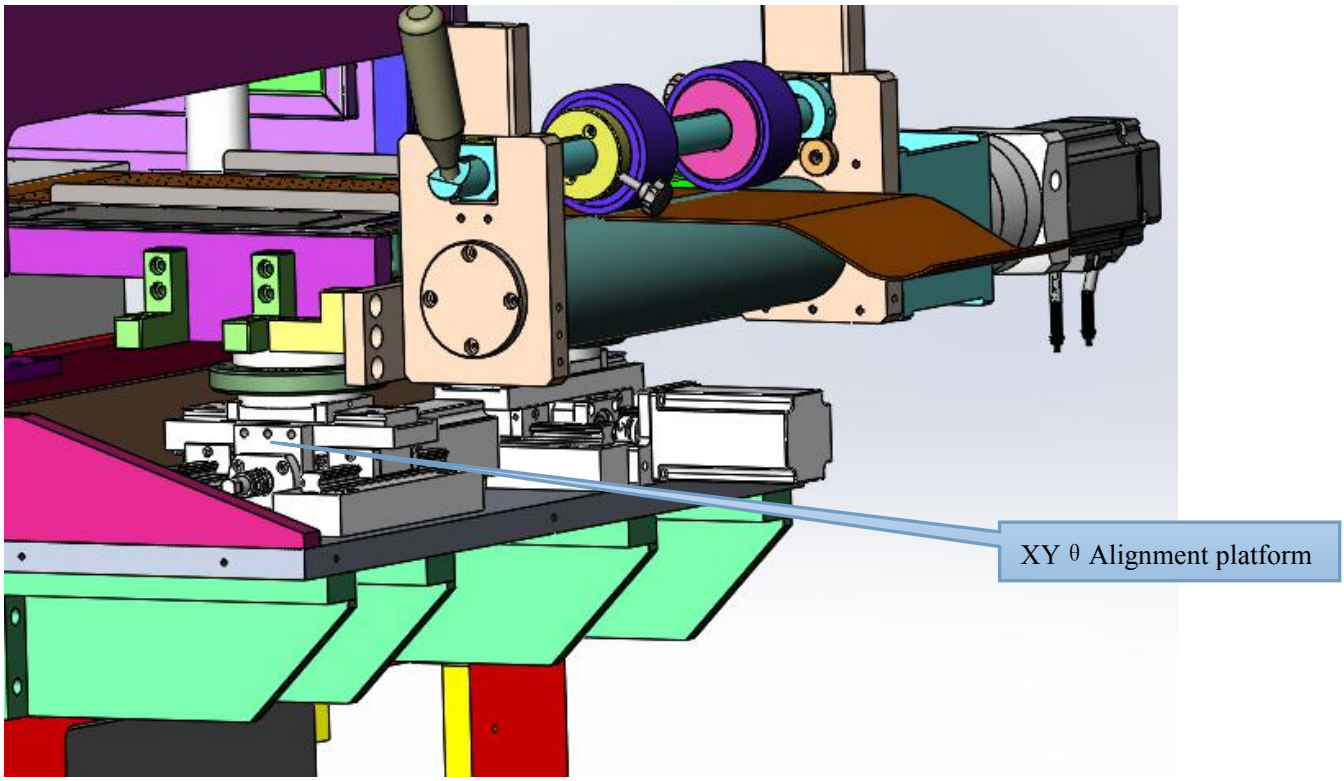

2. Unwinder: The unwinder is used for unwinding of the coiled material. Each time the die-cutting machine punches, the pulling roller will pull a jump distance of the product, and the unwinding machine then unwinds. Ensure the working efficiency of punching.

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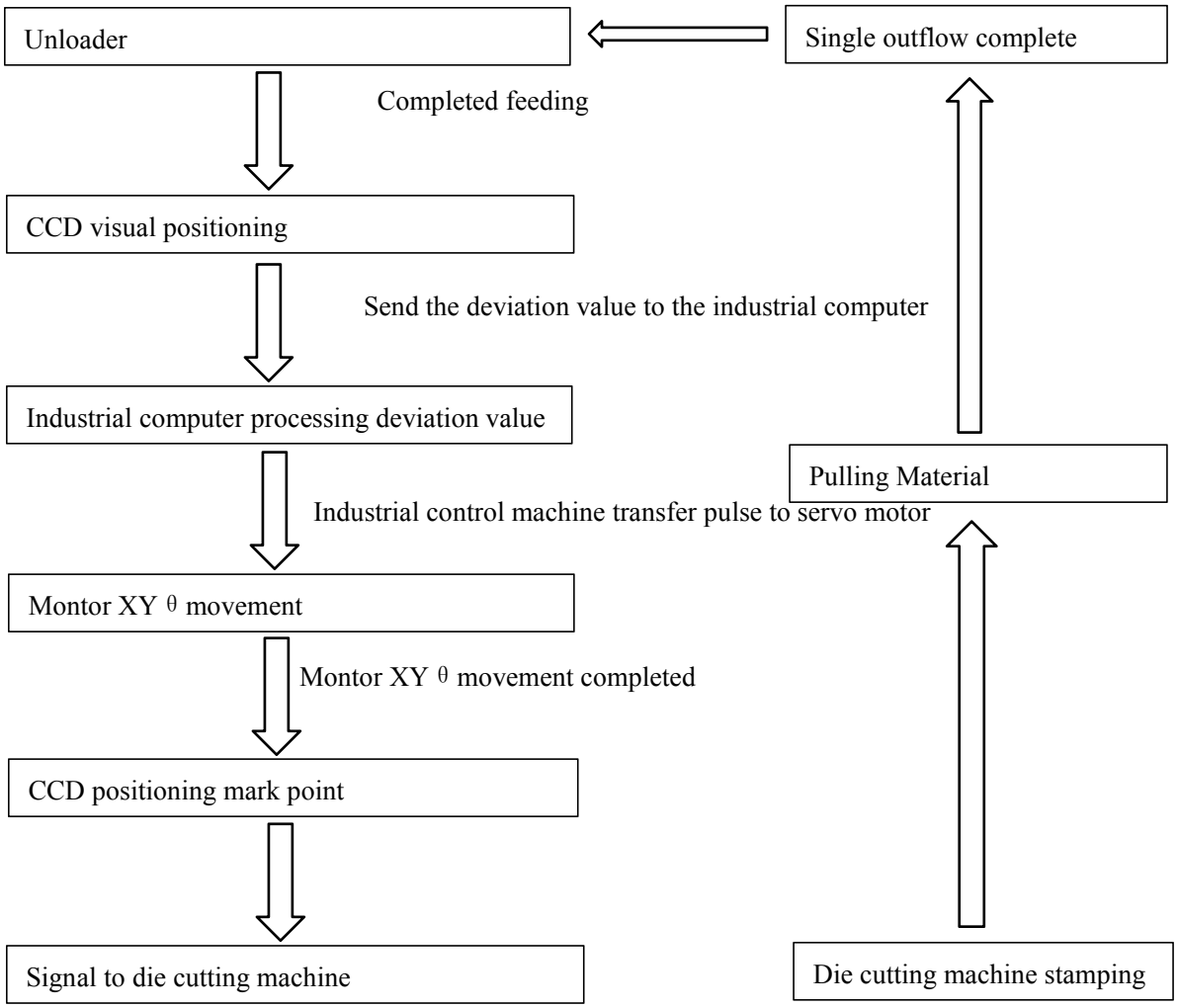
三、Equipment Process

The unwinder unloads the material, after the unloading is completed. CCD visual positioning detection, the error value of PET and positioning standard is sent to the industrial control machine, the designated motor XYθ of the industrial control machine moves until the MARK point and positioning standard of PET are positioned according to the set precision, and the signal is sent to the die cutting machine, die cutting Machine stamping. After the stamping is completed, it enters the next cycle operation.



四、Brief machine specifications

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Product parameter	1. Punching force: 10T die cutting machine 2. Punching material size: Length * Width: 150 * 150-300 * 300mm 3. Punching material: PET and explosion-proof film flexible roll material CCD positioning die cutting 4. The fastest punching speed: 5000 P / H 5. Power specifications: 2 phases, 380V, 50Hz 6. Air source pressure: 5 ～ 6kg / cm2 PSI 7. Air consumption: 2.6L / cycle 8. CCD positioning accuracy: ± 0.02mm 9. Punching accuracy: ± 0.04mm 10. Center distance between two CCDs: 160mm (adjustable range: longitudinal ± 60mm) 11. Machine size: L1500 * W900 * H1750mm 12. Machine weight: about 2000KG 13. Power:1500w
Product character	1. The XYθ alignment platform and CCD are fixed on the die-cutting machine, so that the alignment is stable and the jitter is small. 2. The material is fixed on the loading suction platform, easy to operate. 3. The punching precision is completely controlled by CCD and the positioning is accurate. 4. Man-machine interface control + button switch, can set a variety of functions and parameters, easy to operate. 5. Safety pressure plate, photoelectric switch, emergency stop button, comprehensive safety protection. 6. CCD automatic positioning punching, can automatically adjust the CCD field of view according to the size of the material. 7. The CCD automatically calculates the spatial position of the material and the mold according to the Mark point on the material, and instructs the motor to control the adjustment platform X, Y, θ, and automatic punching. 8. After the equipment is adjusted, the punching will be completed automatically, the number of punching can be automatically set, and an alarm device is installed to facilitate management. 9. Can be customized according to customer requirements to meet different requirements.
Device Configuration	1. Linear guide: Taiwan Silver 2. Feed motor: Japan Panasonic servo motor 3.CCD130 pixels: American ON Semiconductor 4. Photoelectric switch: Japan Omron 5. Bearing: Japan NSK 6. Cylinder solenoid valve: Koganei, Japan