

"筌筌" 注塑机

TSUENSAINT SERIES INJECTION MOLDING MACHINE



"筌筌" 压铸机

TSUENSAINT SERIES DIE-CASTING MACHINE



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大型冲压自动化方案解决专家

LARGE POWER PRESS
AUTOMATION SOLUTIONS EXPERTS

NINGBO TSUENSAINT TECHNOLOGY DEVELOPMENT CO., 宁波筌筌科技发展有限公司

TSUEN SAINT 荃笙
HIGH PRECISION POWER PRESS



宁波荃笙科技发展有限公司，专心致力于高精冲压机床设备的集研发、设计、生产、销售和服务，主营产品包含各类开式、闭式单/双点机械式、伺服冲床和高速冲床近20个系列，涵盖了从25吨到2500吨等30多种规格的机型。产品广泛应用于新能源、家电制造、仪器仪表、汽车配件、电机制造、电器制造、医疗器械、五金等金属制品加工领域。凭借公司二十多年的专业制造高精冲压机床技术经验及创新能力，公司科研技术团队能够为用户提供个性化工程设计和冲压集成解决的专业方案与服务。

NINGBO TSUENSAINT TECHNOLOGY DEVELOPMENT CO.,LTD. is dedicated to the R&D, design, manufacture, sales and service of high-precision presses. The products cover mechanical and servo presses with gap frame, C-frame, single/double points structure and high-speed presses, nearly 20 series, more than 30 types of models with capacity from 25 tons to 2,500 tons. Products are widely used in new energy, home appliance manufacturing, instrumentation, auto parts, motor manufacturing, electrical manufacturing, medical equipment, hardware and other metal processing fields. Relying on the professional experience of more than 20 years in metal stamping and innovation capabilities, our technical teams are able to provide customers with professional solutions and services for personalized engineering design and stamping integration solutions.

APU/W SERIES

Eccentric Gear Precision Press Machine

双点偏心齿轮精密冲床

四点偏心齿轮精密冲床



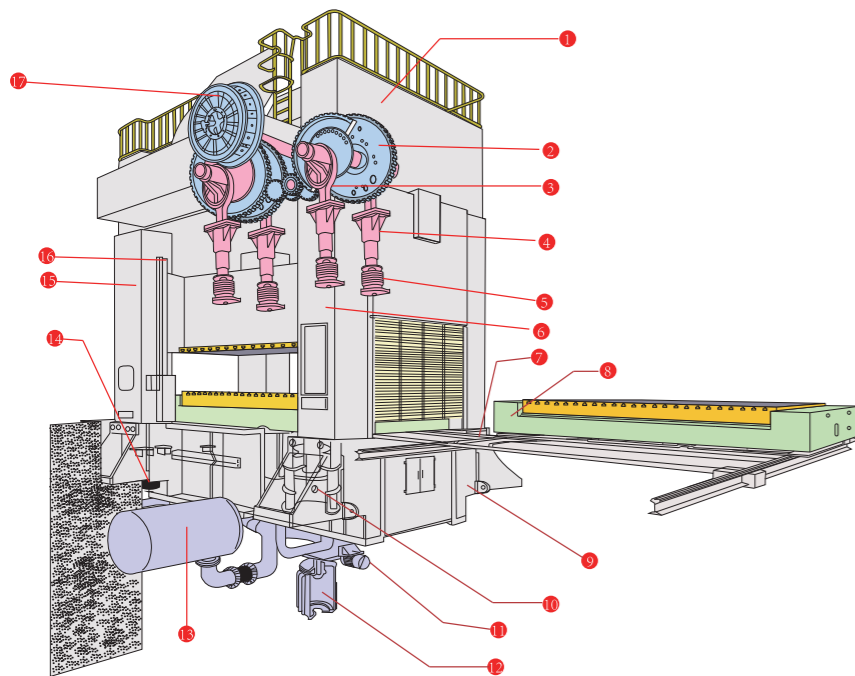
300-2000T

APU/W Eccentric gear precision press machine

APU·双点偏心齿轮精密冲床

APW·四点偏心齿轮精密冲床

- All steel split fuselage,
- Eccentric gear transmission.
- Four corner octahedral guide rail
- Hydraulic overload protection
- Thin oil automatic lubrication.
- 全钢分体机身。
- 偏心齿轮传动。
- 四角八面导轨。
- 液压过载保护。
- 稀油自动润滑。



- | | |
|------------|--------------------------------------|
| ① 顶座 | ① crown |
| ② 偏心齿轮 | ② eccentric gear |
| ③ 连杆 | ③ connecting rod |
| ④ 连杆导座 | ④ connecting rod guide |
| ⑤ 蜗轮箱 | ⑤ worm gear box |
| ⑥ 滑块 | ⑥ slide |
| ⑦ 台车轨道 | ⑦ trolley tracks |
| ⑧ 移动台车 | ⑧ mobile trolley |
| ⑨ 底座 | ⑨ bed |
| ⑩ 模垫汽缸 | ⑩ die cushion cylinder |
| ⑪ 模垫行程调节马达 | ⑪ die cushion stroke adjusting motor |
| ⑫ 模垫缓冲缸 | ⑫ die cushion cylinder |
| ⑬ 模垫空气桶 | ⑬ die cushion air barrel |
| ⑭ 补强杆螺母 | ⑭ reinforcing rod nut |
| ⑮ 中台身 | ⑮ middle platform body |
| ⑯ 滑块导路 | ⑯ slide guide |
| ⑰ 离合刹车器 | ⑰ clutch brake |

slide driving principle

- The slide motion of apu/apw series models is driven by eccentric gears, which is different from the general crankshaft drive mode. Eccentric gears have the following advantages:
- Compared with the crankshaft, the main shaft of the eccentric gear has no torsional stress at all, so it can maintain the accurate motion state of the slider.
- The load bearing area is quite large and the relative surface pressure is small, so it can still maintain high accuracy after long-term use. At the same time, the wear of copper alloy is also small, which can also extend the service life.

滑块驱动原理

- APU/APW系列机型滑块运动均是由偏心齿轮驱动，有别一般的曲轴驱动方式。偏心齿轮有下述优点：
- 偏心齿轮的主轴相较曲轴完全没有扭转应力，所以可以保持滑块精确运动状态
- 承受负荷面积相当大，相对面压小，所以经长时间使用后仍可保持高精度，同时合铜的磨损也较小，也可延长使用寿命。

Connecting rod guide system

- The connecting part of slider and connecting rod of APU/APW series models adopts the way of connecting rod guide seat. This series has the following advantages:
- The lateral force generated during the movement of the connecting rod is completely borne by the connecting rod guide seat and crown structure, and there is a vertical force when it is transmitted to the adjust screw and the slide, which can avoid the uneven wear of the copper alloy of the slide guide rail, so it can maintain high precision for a long time.
- The connecting rod guide seat and the crown form a closed structure, which can avoid the entry of impurities, and has the strength of the complete crown structure, which can reduce the gear noise and create a comfortable working environment.

连杆导座系统

- APU/APW系列机型滑块与连杆连接部均是采用连杆导座的方式，此系列有下述优点：
- 连杆运动时产生的侧向力完全由连杆导座及顶座结构来承受，传导至锯牙及滑块时有垂直方向的作用力，此可避免滑块导轨的合铜的不均匀的磨损，因此可长时间维持高精度。
- 连杆导座的方式和顶座形成一封闭结构，一来可以避免杂质的进入，同时有完整顶座结构强度，更可降低齿轮噪音、创造舒适的工作环境。

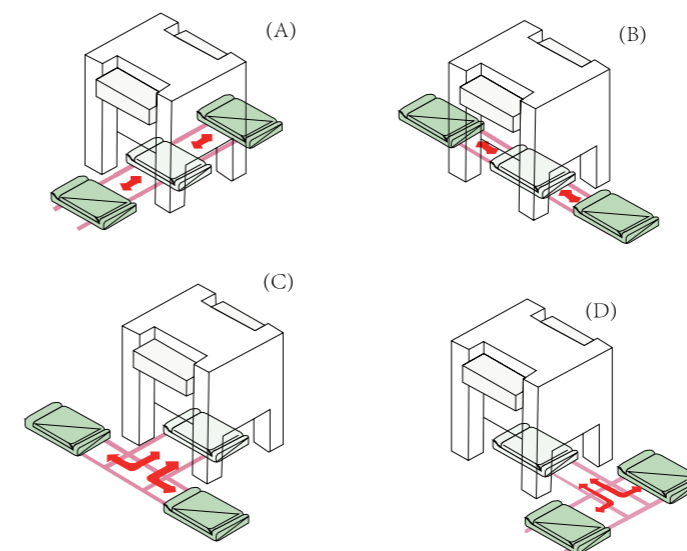
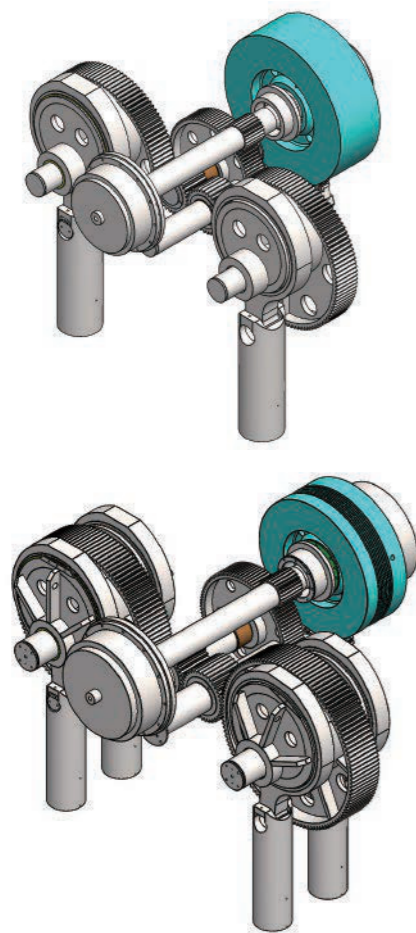
规格	Specification	单位	APU-300	APU-400	APU-500	APU-600	APW-600		
最大加压力	Capacity	Tons	300	400	500	600	600		
能力发生点	Rating Tonnage point	mm	10	13	13	13	13		
行程长	Stroke length	mm	500	500	500	500	500		
行程数	S.P.M	连续	Continuous	spm	15-30	15-25	15-25	15-25	
		断续	Intermittent	cpm	10	10	10	5	5
最大模高	Die Height(SDAU)	mm	700	800	800	900	900		
滑块面积 (L-RxH-B)	Slide Area	1	1	mm	2600x1300	3200x1400	3200x1500	3200x1600	3200x2000
		2	2	mm	2800x1300	3400x1400	3600x1500	3600x1600	3600x2000
		3	3	mm	3200x1300	3800x1400	4000x1500	4000x1500	4000x2000
台盘面积 (L-RxH-F)	Bolster Area	1	1	mm	2600x1300	3200x1400	3200x1500	3200x1600	3200x2000
		2	2	mm	2800x1300	3400x1400	3600x1500	3600x1600	3600x2000
		3	3	mm	3200x1300	3800x1400	4000x1500	4000x1500	4000x2000

APU-800	APW-800	APU-1000	APW-1000	APU-1200	APW-1200	APU-1600	APW-1600	APU-2000
800	800	1000	1000	1200	1200	1600	1600	2000
13	13	13	13	13	13	13	13	13
600	600	600	600	800	800	800	800	800
10-20	10-20	10-20	10-20	10-18	10-18	10-18	10-18	10-18
5	5	5	5	5	5	5	5	5
1000	1000	1000	1000	1200	1200	1300	1300	1300
3600x1700	3600x2200	4000x1800	4000x2400	4500x1800	4500x2400	4500x1800	4500x2400	4500x2400
4000x1700	4000x2200	4500x1800	4500x2400	5000x1800	5000x2400	5000x1800	5000x2400	5000x2400
4500x1700	4500x2200	5000x1800	5000x2400	5500x1800	5500x2400	5500x1800	5500x2400	5500x2400
3600x1700	3600x2200	4000x1800	4000x2400	4500x1800	4500x2400	4500x1800	4500x2400	4500x2400
4000x1700	4000x2200	4500x1800	4500x2400	5000x1800	5000x2400	5000x1800	5000x2400	5000x2400
4500x1700	4500x2200	5000x1800	5000x2400	5500x1800	5500x2400	5500x1800	5500x2400	5500x2400

OPTIMIZATION OF GEAR DESIGN

最佳化的齿轮设计

- The tooth surface is hardened and ground by heat treatment, which makes the gear run smoothly and reduces noise.
- The bearing uses copper alloy with low friction resistance, and the size is increased to reduce the bearing surface pressure and greatly improve the service life of copper alloy.
- All transmission components use forced circulating lubrication system to prolong the service life of parts.
- 齿面均经过热处理硬化及研磨,使齿轮运转平顺同时降低噪音。
- 承使用低摩擦阻力的铜合金,并加大尺寸以降低承受面压,大幅提升铜合金寿命。
- 传动组件均用强制循环润滑系统,延长零部件使用寿命。



- (A) Moving trolley in front and back direction
前、后方向移动台车
- (B) Mobile trolley in left and right directions
左、右方向移动台车
- (C) Forward or backward T-shaped moving bolster
前或后向T型移动台车
- (D) Left or right T-shaped mobile trolley
左或右向T型移动台车

High-performance, flexible automatic stamping line

高性能, 柔性自动冲压线

MOVING BOLSTER SYSTEM

移动台车系统

- When the moving bolster is exchanging moulds, the time of changing moulds is greatly shortened, which facilitates the replacement of moulds and improves the production efficiency.
- Optional die cushion ejector rod lifting device can be installed, It can also shorten the replacement time of die cushion ejector rod.
- moving bolster in the following ways can be selected according to the location requirements of customers' plants.
- 移动台车在模具交换时, 大大缩短换模时间, 方便模具更换, 提高生产效率。
- 可选择性加装模垫顶杆上举装置, 更可缩短模垫顶杆更换时间。
- 可按客户厂房位置需求, 选择下列各种方式的移动台车。