

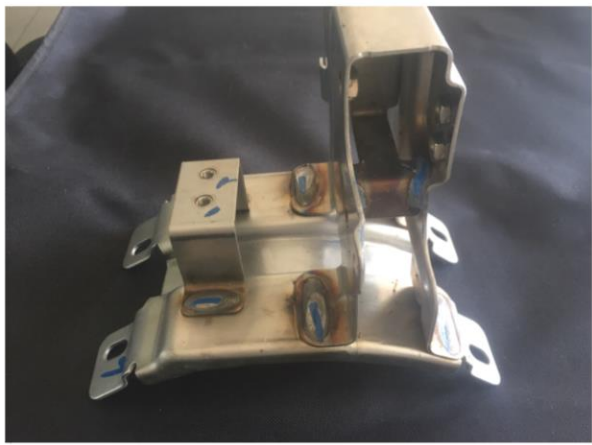


支架类产品工艺的选择与应用

Selection and Application of Bracket Products

支架产品类型 Bracket Classification

支架总成 Bracket Assembly



铆合支架 Riveted Bracket



焊接支架 Welded Bracket



点焊支架 Point Welded Bracket



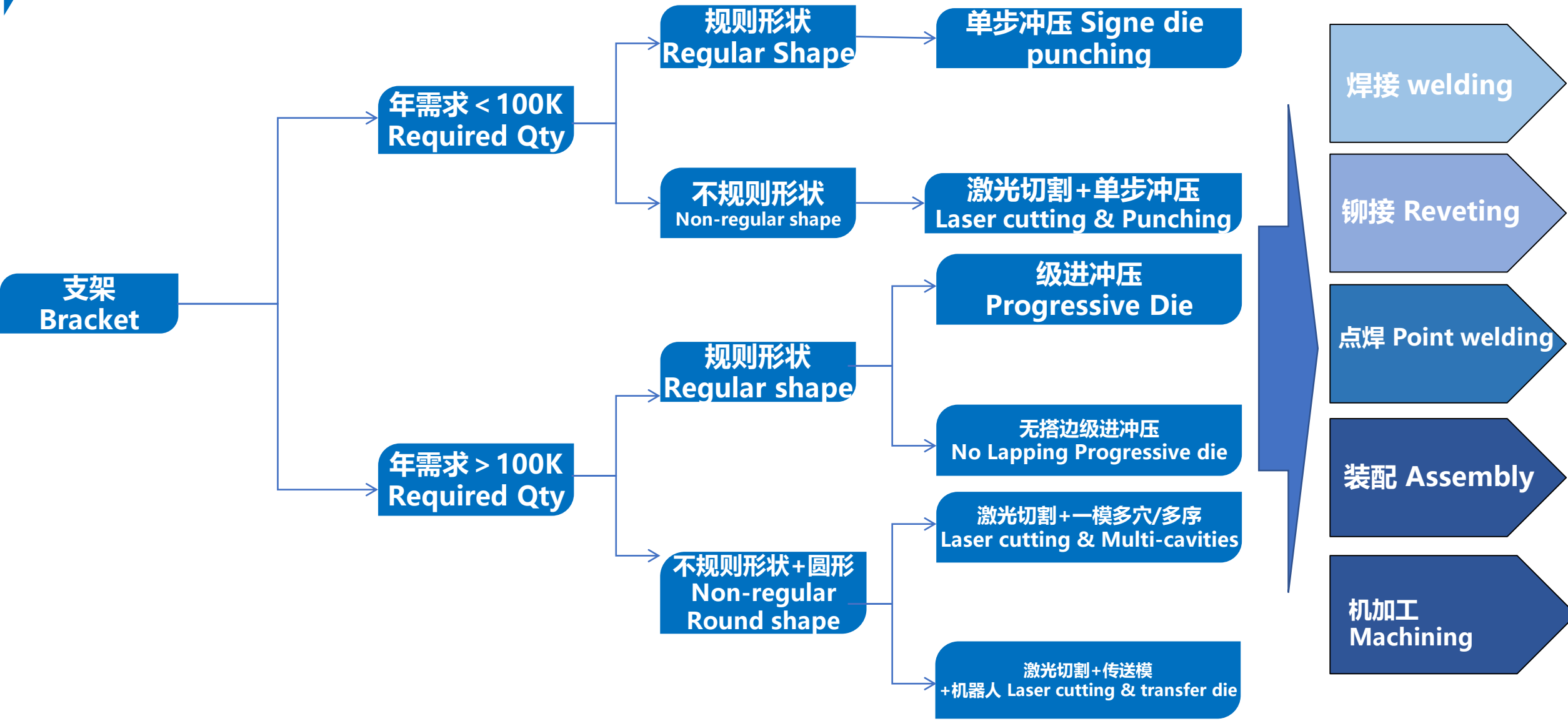
机加工支架 Machined bracket



纯支架 Single Bracket



支架加工工艺选择 Selection of Bracket Production process



工艺类别

Process Classification

1

激光切割 Laser Cutting

2

单步冲压+一模多穴/多序

Single stamping+ Multi-Cavities & Multi-processes

3

级进冲压+无搭边级进冲压

Progressive stamping without lapping layout

4

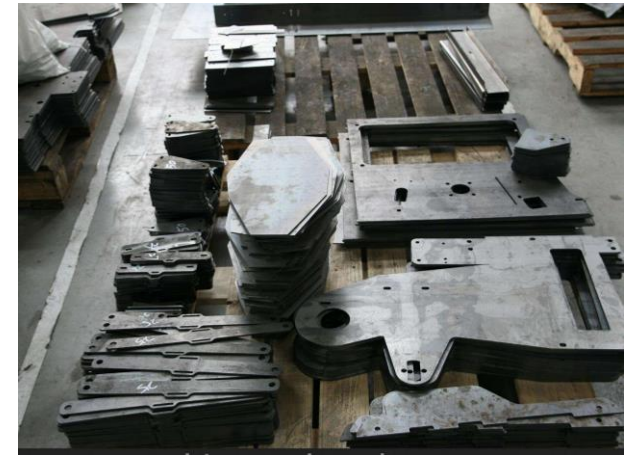
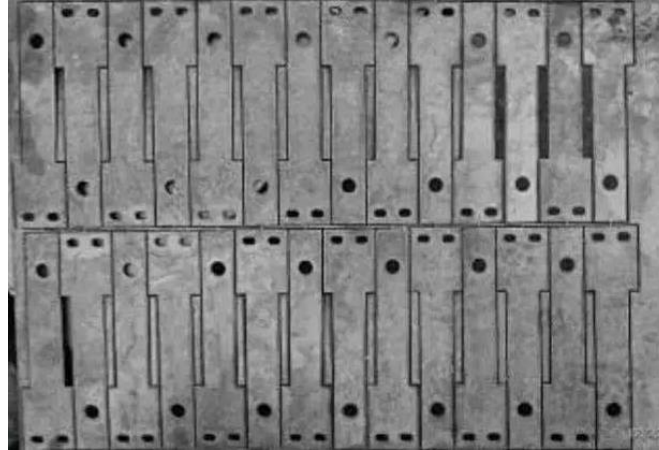
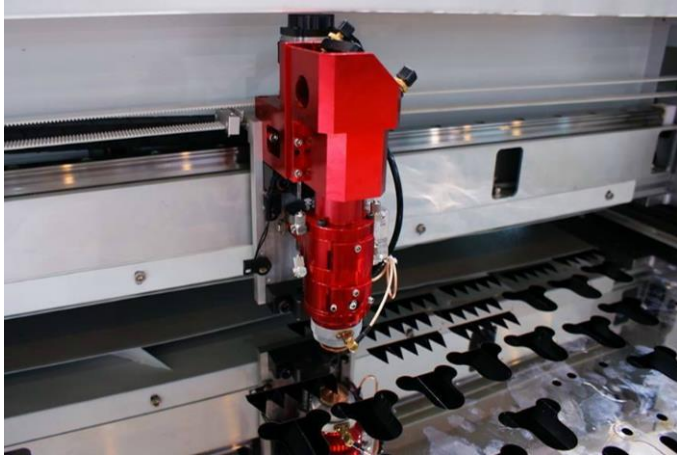
传送模-模外传送/模内传送

Transfer Die(inner transfer & outer transfer)

5

机械手自动化 Full automatic production

激光切割 Laser cutting



生产工艺和设备

Production Process and Equipment

激光切割机 laser cutting machine

适用范围

Application Range

- 3系/4系不锈钢
- Stainless steel series (3xx & 4xx)
- 碳钢 carbon steel
- 厚度为 Thickness from 0mm-6mm
- 任何零件 any shape of products

工艺优势

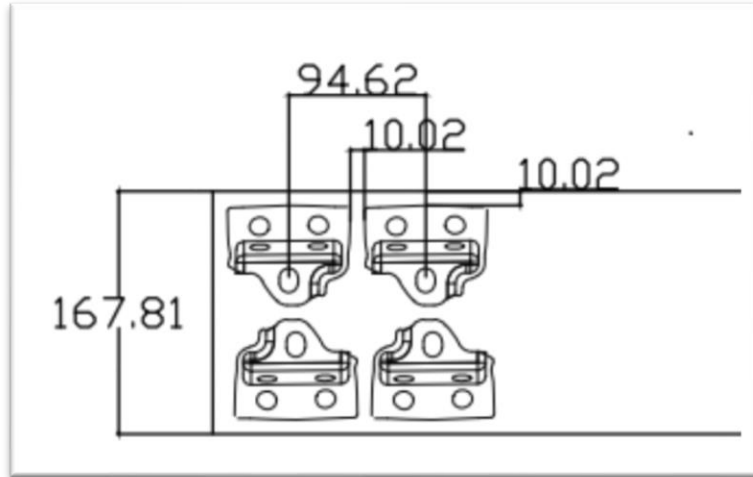
Process Advantage

- 可以做到搭边2-3mm，相比传统冲压工艺提高5%-15%的材料利用率。
- 节省模具费用，交样周期短。
- 不同大小形状的产品，可以进行套料切割，最大限度的提高材料利用率。
- Lapping size can be reached 2mm to 3mm, compare to traditional stamping process, can save from 5% to 15% raw material.
- Save tooling cost and less delivery time
- Able to cut different shapes of products, can maximum improve material Utilization

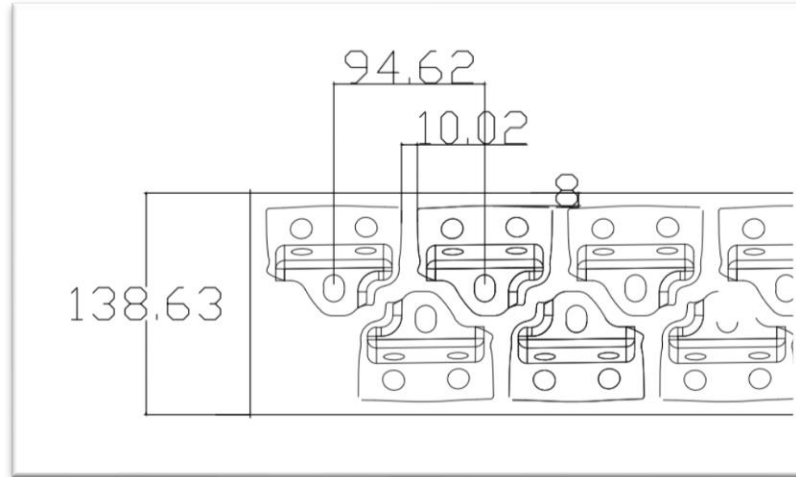
激光切割 Laser cutting

冲压工艺 VS 激光切割 Regular Punching VS Laser cutting

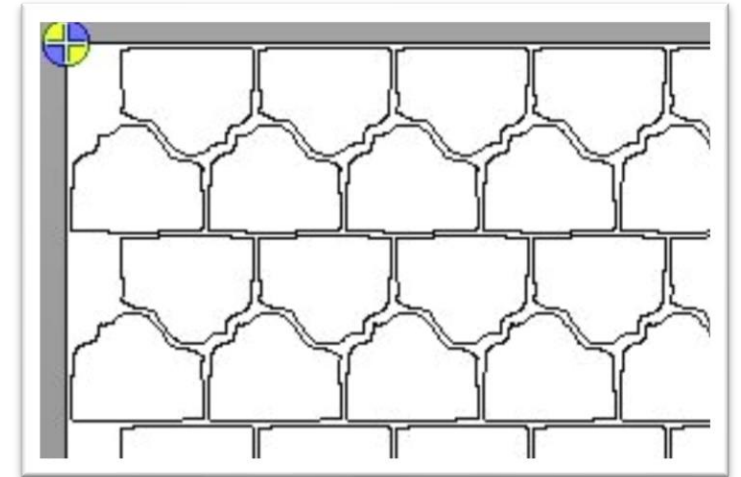
净重0.165Kg Net weight
毛重0.319Kg Gross weight
利用率51.73% Utilization



净重0.165Kg Net weight
毛重0.281Kg Gross weight
利用率58.72% Utilization

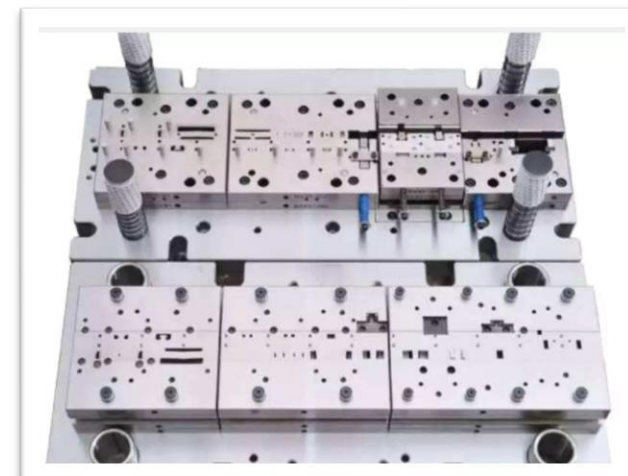
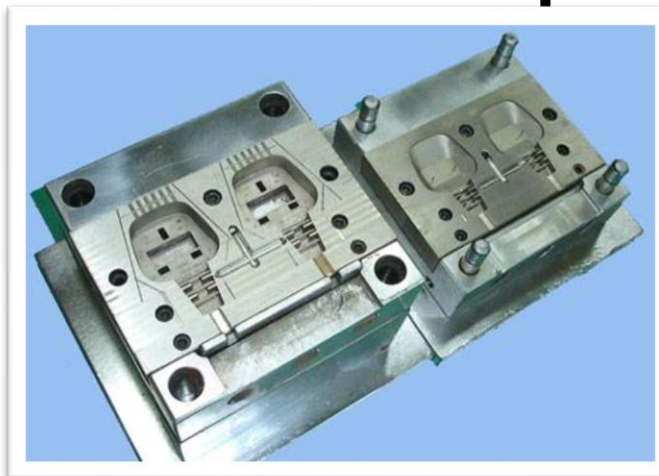


净重0.165Kg Net weight
毛重0.208Kg Gross weight
利用率79.33% Utilization



单步冲压+一模多穴/多序

Single die plus multi-cavities and multi-processes



生产工艺和设备

Production Process and Equipment

一模多穴/多序冲压技术
multi-cavities and multi-processes technology
普通冲床
With regular punching machine

适用范围

Application Range

-3系/4系不锈钢 stainless steel series (3xx & 4xx)
-碳钢 carbon steel
-厚度为0mm-6mm Thickness from 0-6mm
-规则形状/不规则形状
- all regular and non regular shapes

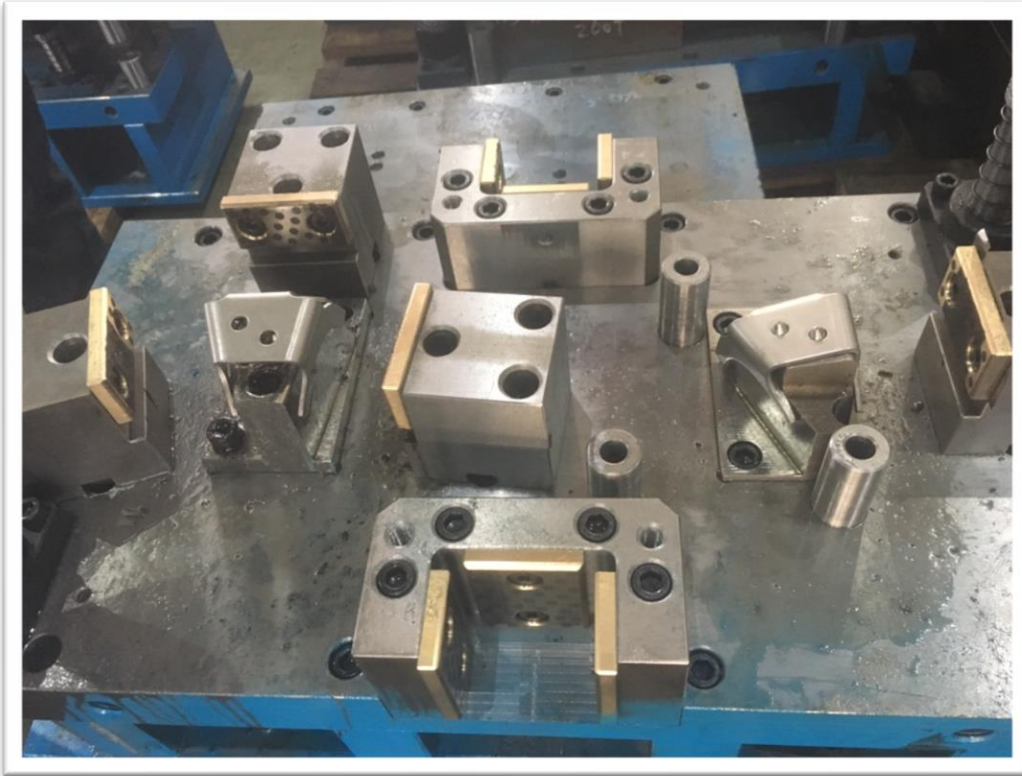
工艺优势

Process Advantage

-相比传统冲压工艺，可提高约40%的效率。
-增加冲床吨位，可以使用更少的冲压设备和人员，单个效率降低，总体效率提交。
Compare to traditional process, can save about 40% of productivity.
Increased to bigger punching tonnage machine can release more small machines and use less workers, overall productivity is improved.

单步冲压+一模多穴/多序
Single die and *Multi-cavities and Multi process*

一模多穴/多序案例展示 Multi-cavities and Multi process-Example



级进冲压+无搭边级进冲压 Progressive die without lapping layout design



生产工艺和设备 Production Process and Equipment

级进模冲压技术 Progressive Die technology
无搭边级进模冲压技术 No lapping design
(三合一卷料送料
+400T冲床 1台) Roll feeding Machine
400T(Three-in-one)

适用范围 Application Range

-3系/4系不锈钢 stainless steel series (3xx & 4xx)
-碳钢 carbon steel
-厚度为0mm-6mm Thickness from 0-6mm
-规则形状/不规则形状
- all regular and non regular shapes

工艺优势 Process Advantage

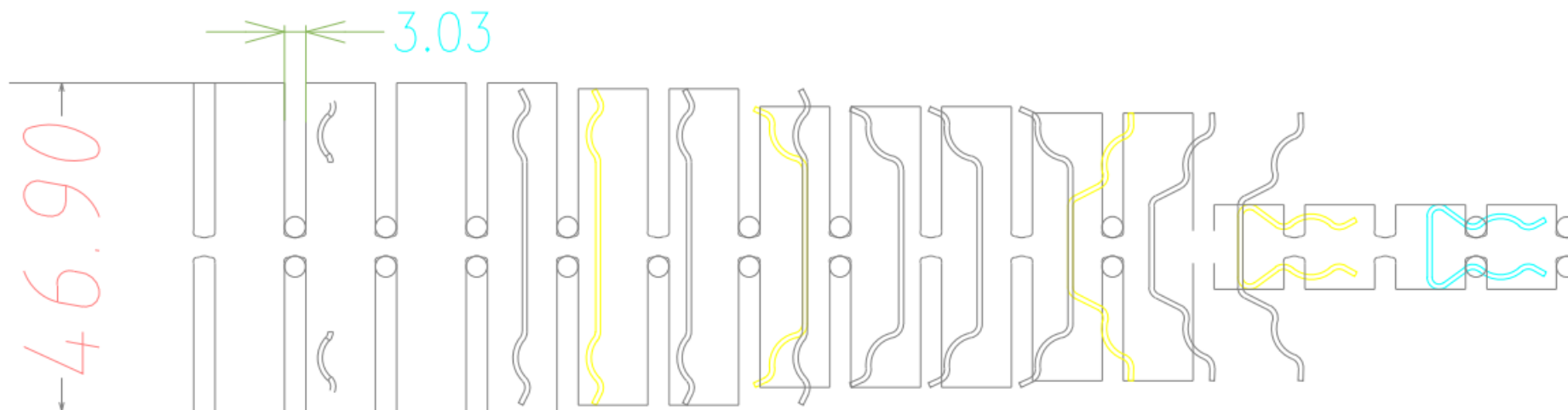
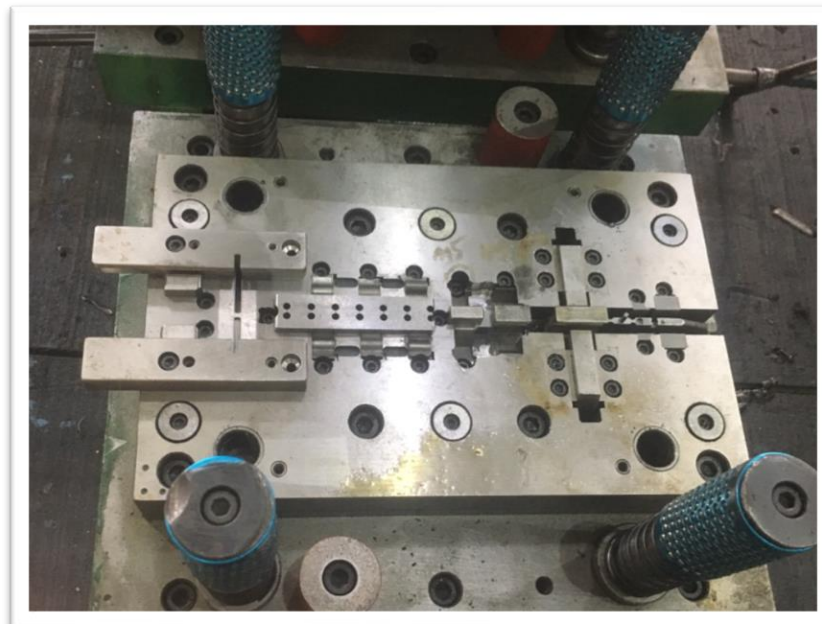
- 可实现卷料自动送料，冲压频次可达到20-30次/分钟
- 无搭边相比传统冲压工艺，可提高约10%的材料利用率。

Automatic feeding system can realize 20-30 times punching request per minute.
Without lapping layout design can save 10% of the raw material.

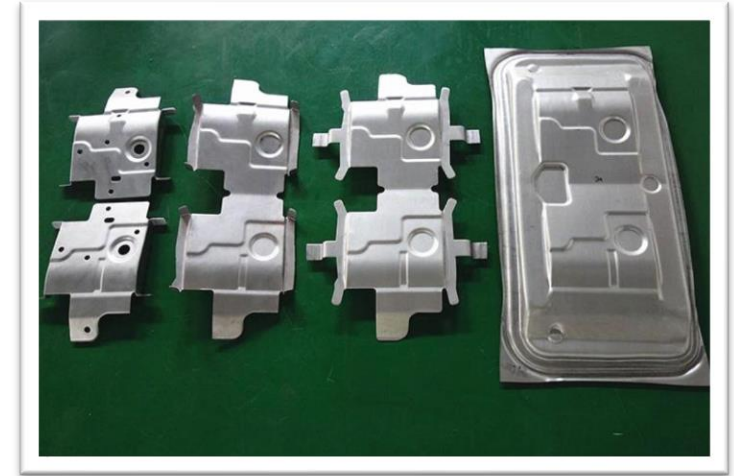
级进冲压+无搭边级进冲压

Progressive stamping without Lapping layout design

无搭边案例展示
Without lapping layout design



传送模 Transfer die



生产工艺和设备 Production Process and Equipment

传送模技术 transfer die technology
普通冲床 regular punching machine

适用范围 Application Range

- 3系/4系不锈钢 stainless steel series (3xx & 4xx)
- 碳钢 carbon steel
- 厚度为0mm-6mm Thickness from 0-6mm
- 规则形状/不规则形状
- all regular and non regular shapes

工艺优势 Process Advantage

- 相比传统冲压工艺，可提高约80%的效率。
- 增加冲床吨位，可以使用更少的冲压设备和人员，效率是级进模的60%

Compare to traditional process, can improve about 80% of productivity
Increased to bigger punching tonnage machine can release more small machines, use less workers, and can reach 60% of productivity by using progressive die punching.

机械手自动化 Robot applications



| <p>生产工艺和设备 Production Process and Equipment</p> | <p>适用范围 Application Range</p> | <p>工艺优势 Process Advantage</p> |
|--|--|--|
| <p>单工位机械手自动化技术 Single process with Robot 多工位机械手自动化技术 Multi-process with Robot 普通冲床+工业机械手 Regular stamping machine with Robot</p> | <p>-3系/4系不锈钢 stainless steel series (3xx & 4xx) -碳钢 carbon steel -厚度为0mm-6mm Thickness from 0-6mm -规则形状/不规则形状 - all regular and non regular shapes</p> | <p>-相比传统冲压工艺，可提高约100%的效率。 -增加冲床吨位，可以使用更少的冲压设备和人员，效率是级进模的80% -多工位机械手自动化技术直接在模具内进行产品工位的切换，减少工位转换的时间浪费 Compare to regular stamping process, can improve 100% of the productivity. Increased to bigger punching tonnage machine can release more small machines, use less workers, and can reach 80% of productivity by using progressive die punching. With Robot can realize process switching within the tooling, save more times for process changes</p> |

冲压支架附加工艺

Extra Process of Bracket assembly

02 攻牙机, 车床, CNC, 满足各类支架机加工工艺
Threading machine, lathe, CNC can satisfy all
bracket production

01

能进行冲压件与各类零件铆合的加工
Can apply to all stamping parts with riveting assembly process.

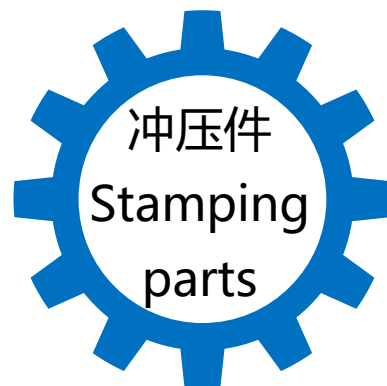
铆合
Riveting

机加工
Machining

焊接
Welding

03

工业焊接机器人, 满足各类支架焊接工艺
Industrial welding robots can satisfy all welding process.



04

点焊机满足各类螺栓螺母点焊工艺
Point welding machines can satisfied all nut and stud welding.

点焊
point welding

表面处理
Surface treatment

装配
Assembly

05

能进行冲压件与各类零件装配的加工
Can do assembly for all different stamping parts.

06 可以外协电镀/电泳/达克罗, 满足各类支架表面处理工艺
Have outsourcing resources for surface treatment such as plating, electro-coating, dacromet surface processing and etc.



THANKS

