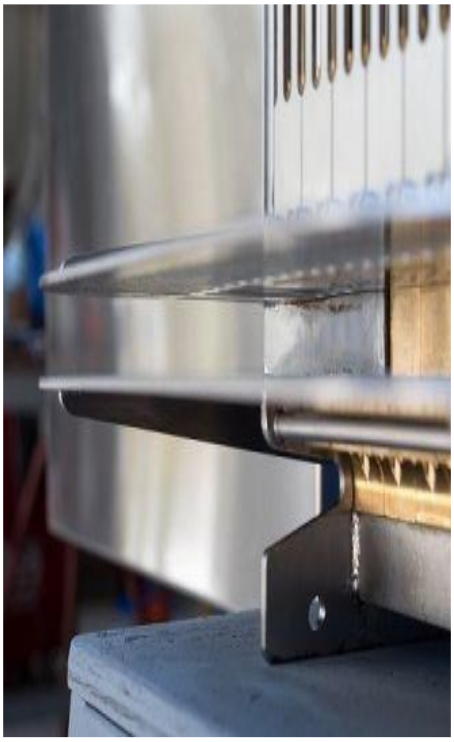
STAMPER INFORMATION

Inside the stamper

The speed | 2
The screen | 4
The precision engineering | 6
The hydraulic valves | 8
The stamping head | 10
The robust engineering | 12
The hydraulic power pack | 14
The footprint | 16
The electronics | 18
Transport | 21



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THE SPEED

The time taken for a stamp is around 1 second.

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When we started making the Gibson Bass Stamper the stamp took about 4 seconds.

We have worked hard on reducing this time over the years by increasing the volume rate of the hydraulic pump and by boosting the power of the 3 phase electric motor driving the hydraulics, as well as adding more and bigger hydraulic pistons (still only 7.5mm in diameter) to pull the knives back out of the hide.

The Speed video

THE SCREEN

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The screen has two main purposes.

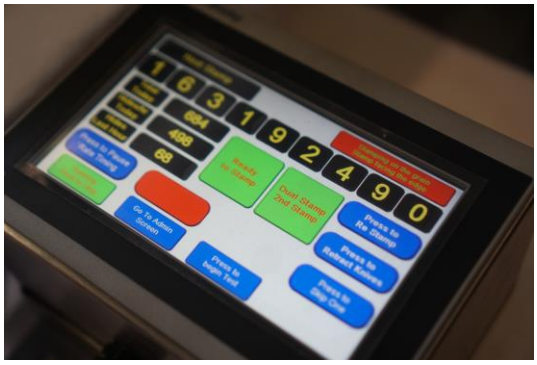
Firstly to tell the operator what is happening, and secondly to change stamping settings.

There is normally a protected area for changing such settings as the "Orientation" of the stamp (eg facing the edge or facing away from the edge of the hide) or stamping "Any Number" for the purposes of trials or testing and also on some stampers there are timers to adjust.
Here is are a couple of screens we have made for different customers, each of whom had different requirements.

Typically, all the operator has to do to start is to press the "Start" button, and then stamping can commence. The screen then helps the operator keep track of what the stamper is doing. When the start button is in the "Stopped" mode, the stamper cannot operate, making it extremely safe.

See the screen video

This start button is common to all stampers, but practically everything else on the screen is tailored to the customer's needs.



Precision Engineering

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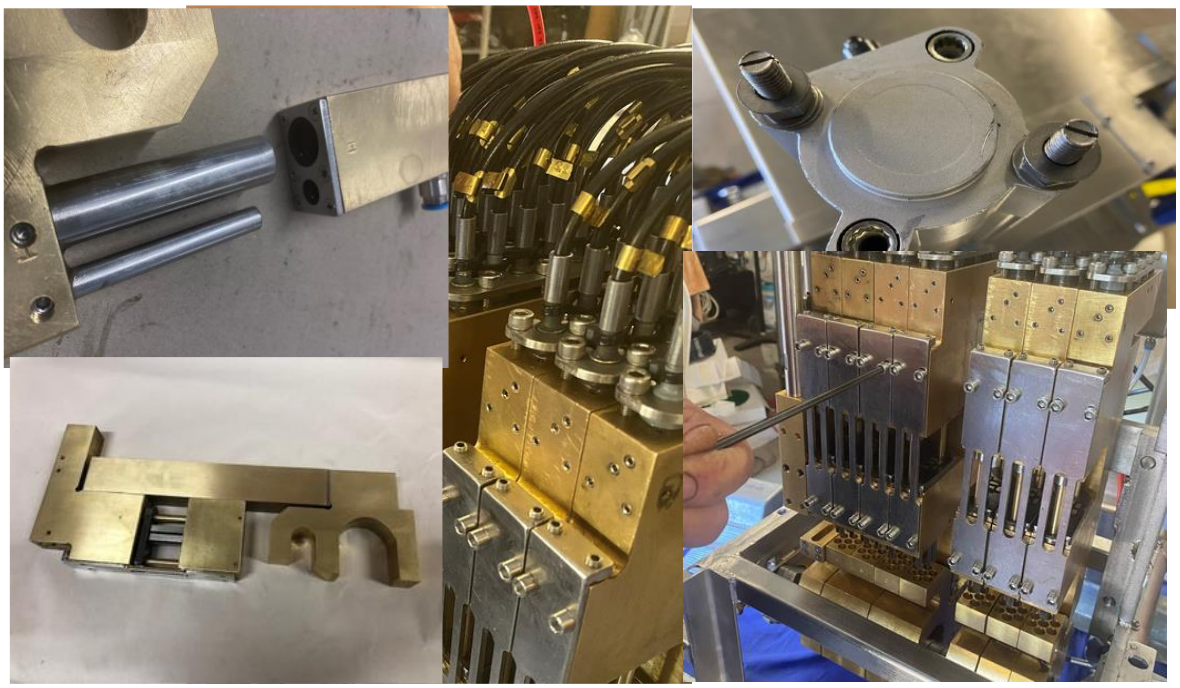
The precision engineering

This is a tough, robust machine, built for abattoir and tannery conditions, but it is also a precision piece of engineering.

For example, each of the single digits is made up of several components, and they are all matched precisely to each other.

Also the tolerances in the hydraulic pistons that drive the knives are very tight, but they have to be that way to guarantee the machine works, and works and works.

The stamper is now the result of refinement, re-engineering and of the lessons learnt from long term commercial use over more than 20 years



HYDRAULIC VALVES

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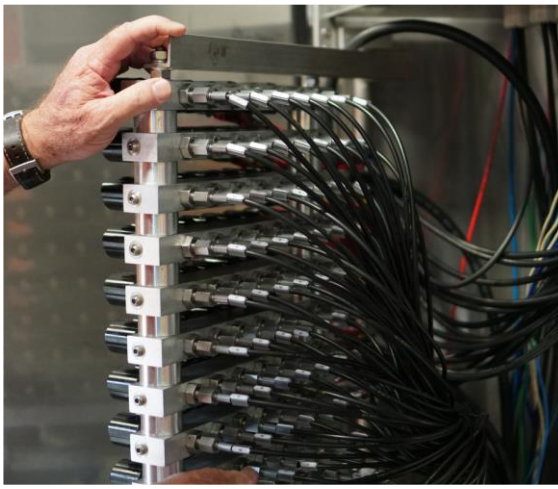
Hydraulic Valves



Initially we used off the shelf third party hydraulic solenoid valves.

There are 7 of these for each digit. We found that the "industry standard" failure rate was just not acceptable, so Richard Bass designed and made our own valves which we now use exclusively.

Over more than 15 years we have never had a valve fail. Making the valves and their solenoids in house can be time consuming, however it pays off many times over when the machine is put into work in the rough and tumble of a tannery or abattoir.

STAMPING HEAD

This is the heart and soul of the stamper.

The stamping head

This is the heart and sole of the stamper.

The ingenuity involved in getting eight hydraulic lines (one for each knife and one to pull the knives back out of the hide) into 9 separate pistons in a 25mm wide digit is the key to the stamper's uniqueness.

Each stamping head is customised. They range from 3 digits to 9 digits and there are ones where the jaws open, ones with a knife to make a hole for hanging the hide on a hook on a chain and ones which sit on a rotating head for when in use on a kill floor.
They are basically all brass and 316 stainless, except for the knives which are spring stainless which we heat treat ourselves in house. The stamping heads are precision engineered to last for literally many millions of stamps.
There is no electricity at the stamping head as all controls there are pneumatic.

ROBUST ENGINEERING

The stamping head is all stainless steel and brass.

Robust Engineering

The stamping head is all stainless steel and Brass.

It is engineered to withstand the toughest abattoir and tannery conditions.

Have a look at the recommended wash down procedure to see how durable the stamper is. It is engineered not just to do the job, but to exceed the worst conditions our customers can throw at it.

The washdown video

HYDRAULIC POWER PACK

Extreme hydraulic power is the reason the stamper is so successful.

Hydraulic power pack

Extreme hydraulic power is the reason the stamper is so successful.

The cutters go right through the thickest hides, leaving a clear permanent mark.

A 3-phase motor and pump that provides up to 2000 psi (nearly 14,000 kPa) results in each of the seven cutters in each digit having the equivalent of a 40kg weight on it.
Over several generations of stampers we have progressively upgraded the powerpack to meet ever decreasing time restraints, and now the time for a stamp is down to as little as 1 second..

THE FOOTPRINT

The hydraulic powerpack sits under the control box.

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Requiring a very small footprint for them both of approximately 650mm x 500mm.

The control box is attached to the stamping head by an ‘umbilicus’ that carries all the hydraulic and pneumatic lines, and which allows the stamping head to be up to 4 metres from the control box.

THE ELECTRONICS

The stamper is programmed by Joe Gibson to meet individual customer's needs.

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We use Allen Bradley Compact Logix PLCs which allow for ethernet connectivity with local area networks.

We can also provide remote access to the PLC live on line from virtually anywhere in the world if required.

We have recently changed to solid state relays for control of each knife. The mechanical relays have a life of around 10 million stamps and some have had to be replaced, while the solid state relays have no moving parts to wear out.

An immense amount of data can be collected by the PLC and recorded or made available to the LAN.

For example such things as stamping rates, times of operation, pauses in stamping and other data that the customers might request. One customer wanted to record the stamping data of different teams of operators, and another wanted to keep a record of the different species (sheep, cattle, goats and 'others') that were stamped.

The electronics (cont'd)

The stamper can automatically generate a stamp, such as a serially indexing number, or a date with a manually entered lot number, or it can be fed a number from the local area network.
Some examples of what our customers have required:

- The PLC calculating a 4 digit date to be stamped along with a body number sent from the slaughter floor network
- An 8 character barcode to be scanned, with the first 2 and the last 3 characters from the barcode stamped on the hide.
- A serially indexing hexadecimal code (000001 to FFFFFF), giving more than 16 million individual stamps in a six digit stamper before a repeat.
- A nine digit stamp sent from the local area network
- A European week number (1 – 53) and a day of week number (1 – 7) along with a 4 digit body number

TRANSPORT

Transport

It is suitable for transport by road, rail, sea or air.

For transport the stamper is packed into a purpose built, forklift ready, steel box with a lid which is bolted down

GIBSON BASS

STAMPER

SINCE 1994

Seamlessly prove provenance from the source to the customer.

For further information
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