TechKISS Topic: Auto-Drafting

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Auto-drafting is an electronically-operated gate that automatically sorts cows via their Electronic Identification.

You can enter criteria to select cows in the system software or select cows individually. Cows are typically auto-drafted for mating, treatments, pregnancy testing, further observation or vet checks.

The smart parts of auto-drafting systems are:

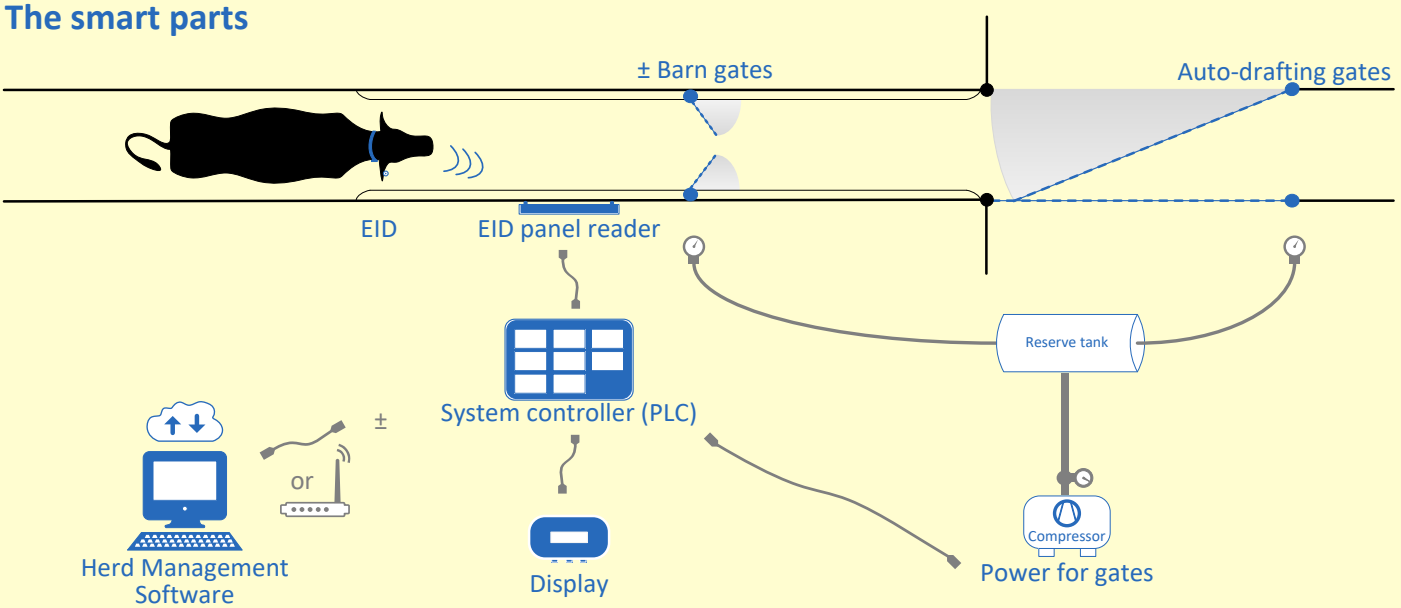
- EID to uniquely identify every cow, usually NLIS ear tags or activity meters in Australia
- An EID reader such as an antenna or panel
- A system controller, a processor that receives data and directs what the drafting gate does
- Powered gates.

"It's the first thing to do, you can't get value from the other tech unless you can auto-draft cows."
-AD

Benefits

- ★ **Saves time and labour**
- ★ **Accurately drafts the right cows**
- ★ **Promotes smooth cow flow**
- ★ **Helps farm safety (less animal handling)**

The smart parts



Making Auto-Drafting Work For Your Farm

Tips & traps from TechKISS study farmers

Design of race, gate & yards

For smooth cow flow ensure:

- ❑ Race has good forward visibility
- ❑ Entry race is 2+ cow lengths
- ❑ Exit from race is 2+ cow lengths
- ❑ Draft gates are hinged from far post (stops cows forcing their way through)
- ❑ Draft gates are gently angled (so cows don't hesitate or baulk)
- ❑ Gates are not noisy (eg use rubber to stop clanging and minimise sound of air movement in rams)
- ❑ Yard can hold cows with space to spare (eg holds double typical cow numbers)
- ❑ Work areas aren't in direct line of sight
- ❑ If using rubber to reduce hoof wear, extend it to the end of the exit race and into the sort pen
- ❑ Race is at a width so cows can't pass
- ❑ Barn gates swing from front to back (to stop cows backing out)

For more functionality:

- ❑ Put in 3-way gates if you can (it provides more options than 2-way)

Gate activation

- ❑ Set up the gate to be fast-acting so cows can't force or jam it
  - Have sufficient reserve air capacity
  - Locate reserve close to gates (in a way that controls for any noise)
- ❑ Ensure cows can't enter until target cow is segregated
- ❑ Protect the control box from sun & rain
- ❑ Purchase gates with a manual override (for blanket action or if malfunction)

Fixing issues

- ❑ Ensure workers know what to do when there is a system failure
- ❑ When purchasing, pick a system where issues can be fixed within one week

Position of EID reader

- ❑ Place the reader well before cows reach the gate
- ❑ Check antenna can reliably read all cows
- ❑ Shield antennas so cows in holding yards aren't read
- ❑ Put readers where they are easy to clean and clean regularly - including the sensor eye (detects gaps between cows in races with barn gates)

Integration with other tech

- ❑ When choosing a system, ensure the Electronic Identification used by the herd will operate the gates (not all do)
- ❑ Get a system controller that integrates with your herd management software

Cow identification

- ❑ Put NLIS tags in the ear on the right
- ❑ Regularly check that the EID system is working well
- ❑ If using activity meters for EID, ensure they are is assigned to the right cow

Drafting cows

- ❑ Before installing, decide where gates will be controlled (eg from the office, at cups on/cups off, via smartphone)
- ❑ Ensure the following are entered into the system controller:
  - Individual cows details
  - Drafting criteria

WH&S

- ❑ Put farm protocols in place to manage this crush point hazard

Visit NSW Department of Primary Industries for:

- ➢ Videos on cow management technologies
- ➢ TechMatrix list of auto-drafting systems available in Australia.

In 2018, 38% of dairy farms in NSW were using auto-drafting.

TechKISS is a New South Wales Dairy Industry Fund project delivered by the Harris Park Group. Project information is generic and is offered on an 'as is' basis with no guarantees of completeness or accuracy. Please seek advice before acting.