

PERRY

ENGINEERING
EXCELLENCE

Perry Silos



Flat Bottom Silos



+44 (0)1404 890300
www.perryengineering.com

The flat bottom silos have a modular design and are manufactured using high-grade S350 and S450 steel giving superior strength-to-weight characteristics protected by galvanising to Z600 standard ensuring a long service life.

Key features of the Perry flat bottom silo range:

- They have capacities from 30 to 20,000 tonnes based on wheat at 750kg/m³.
- They range from 3m diameter (30 tonnes storage) to 32m diameter (20,000 tonnes storage), with custom diameters available to suit existing bases when replacing an end-of-life silo.
- They're designed for high cyclic loading (high usage of product in and out at high tonnage rates).
- They're built with a 30-degree pitched roof that provides integrity while maintaining low overall heights for conveyors & elevators and is greater than the natural angle of repose for stored materials.
- A unique single-piece roof sheet design is used on silos up to 16m diameter - simplifying installation and enhancing performance.
- Our silos with smooth-wall construction are the perfect solution for poor-flowing products, such as meals and wood chips.
- All flat bottom silos include a cylinder access door and roof inspection hatch as standard and additional single or double ringdoors can be installed.
- Supplied flat pack for bolted construction on-site.
- Can be produced in galvanised finish as standard, with stainless, mild-steel and painted as options.
- Can be designed to meet either ANSI or Eurocode standards, depending on the destination country.
- Bespoke silos can be designed to suit your individual applications.



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Hopper Bottom Silos



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Key features of the Perry hopper bottom silo range:

- Hopper bottom silos have capacities from 35 to 3,000 tonnes based on wheat at 750kg/m³.
- 45 and 60 degree hoppers available.
- Diameters are from 3m to 13m, with custom diameters available to suit existing bases when replacing end-of-life silos.
- Supplied flat pack for bolted construction on-site.
- Outlet sizes are 300mm, 400mm or 600mm depending on the application.
- Bin slides can be manual, motorised or electro-pneumatic to suit individual requirements.
- Special silos are available to suit specific applications.
- Can be produced in galvanised finish as standard, with stainless, mild-steel and painted as options.
- Can be designed to meet either ANSI or Eurocode standards, depending on the destination country.
- Bespoke silos can be designed to suit your individual applications.



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Square Hopper Bottom Bins



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The Perry range of galvanised square hopper bottom bins have a modular design that easily allows them to be extended at a later date to increase the capacity of the bins as storage demand increases. They are supplied in a flat pack for bolted construction on-site – easy and efficient for your convenience.

The Perry range of tote bins are suitable for both indoor and outdoor use (with the addition of a lid), for bins up to 1.2m wide. Forklift channels can be added to allow the bins to become mobile, making them ideal for filling mobile driers. The Perry self-assembly square bins range from 1.2m to 4m and a splash back with bump bar is also available as an option.

Key features of the Perry square hopper bottom bin range:

- Square hopper bottom bin capacities from 1 to 100 tonnes based on wheat at 750kg/m³.
- Bin sizes range from 1.2m to 4m - and a variety of heights are available.
- 45 and 60 degree hoppers are available.
- Various lid options include dust covers, weatherproof lids and tarpaulins.



- Galvanised, stainless, mild steel and painted options are available.
- Mobile drier compatible square bins.
- Forklift channels available on bins up to 2.9m square.
- Bin slides can be manual, motorised or electro-pneumatic to suit individual requirements.
- Bump bars available on dump loaded bins to minimise damage from forklifts.



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Perry Silo Accessories



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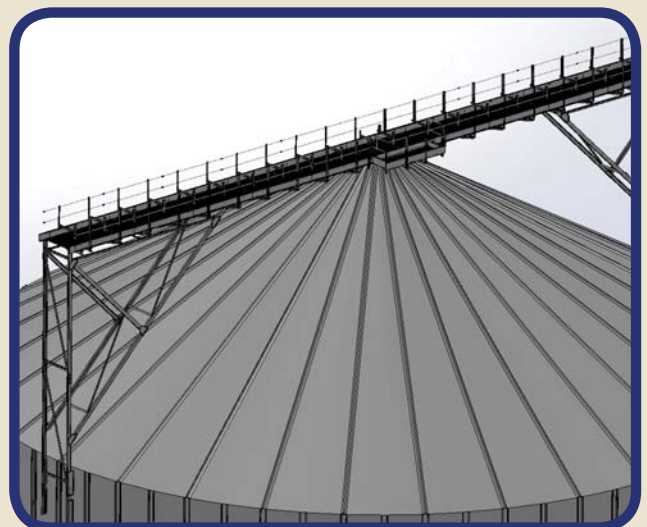
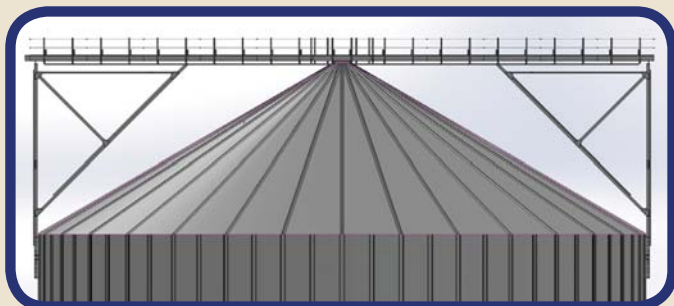
In addition the Perry standard silo range, we can also supply:

- Complete aeration systems (fans, perforated floors etc.)
- Temperature control systems (portable or with computers).
- Walkways and catwalks - the catwalk system is modular to be able to adapt to all types of conveyor loads and to any plant design. Standard catwalk widths range between 1m and 3.6m, including a 1.1m double handrail. Custom sizes are available on request.
- Towers and structures (supporting columns, work towers, support structures for truck / train loading silos).

Catwalks

The standard catwalk feature has widths ranging from 1m to 3.6m. These consist of a double handrail with a vertical height of 1.1m and a half-height safety rail supported every 1.5m by vertical handrail posts, and a kickboard. The catwalk's standard full width floor is constructed from galvanised grating sheets of 30 x 30mm.

A pre-punched floor and part flooring can also be provided. The catwalk's construction is made of galvanised profiled beams. The design includes three beams to accommodate heavier conveyor loads. This also lowers the chance of deck sag. To help avoid trip risks, the decking is installed directly on top of the beams using dome-headed bolts.



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Aeration

You can choose from flush floor (lateral) systems or full floor aeration systems for flat bottom silos and in-cone aeration systems for hopper silos. For safe storage of grain, we use airflows of 5 to 10m³/hr/ton depending on the product stored and storage duration.

Each system is custom designed to ensure air distributes evenly while reducing the air velocity. The flush floor system uses 530mm wide perforated laterals, and the number per linear metre changes in accordance with the grain loads imposed.

We know that different products and silo heights result in different static pressures. The site elevation is a key factor in selecting the correct fan, as height above sea level increases, the air density decreases affecting the fan airflow. We use state-of-art software to calculate the static pressure and ensure the fan selected meets both variables. We also offer complete in-silo drying systems, roof fans, and associated equipment for your convenience.

The Perry range of centrifugal aeration fans are designed and manufactured in-house. The range starts with a 0.55kW motor fan up to 7.5kW motor operating at either high speed or low speed, which gives us the ability to produce and supply the correct fan for every application. The backward-curved impeller is encased in a fully galvanised housing. Each fan is produced with a large air inlet with safety guard, weather hoods on the air inlet, galvanised transitions and flex couplings are all available as options.



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Monitoring Stored Grain

Perry supply the iGrain range of products, which include a handheld reader system and advanced system monitoring grain moisture, temperature and CO₂ production in silos and floor stores. The mission is to preserve and optimise crop value and prevent spoilage and fungus.

The iGrain Hand-Held Reader is an efficient tool to display the data collected from the temperature cables.

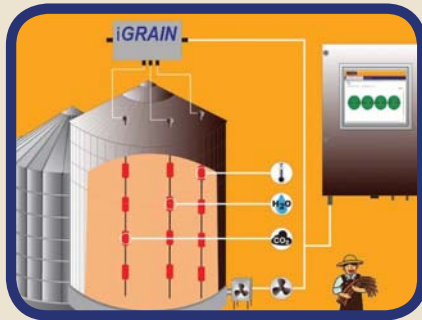
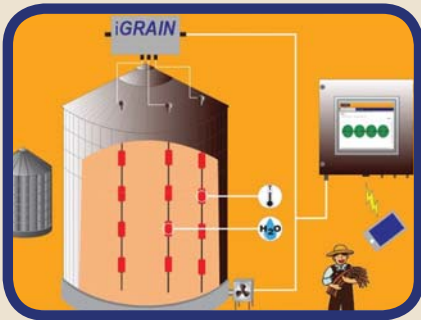
The CO₂ grain sniffer is one of the most advanced methods for effectively identifying an issue with stored grain. The capacity to detect a possible problem within a silo rapidly helps the operator to act more swiftly, decreasing the risk of spoilage.

The Dashboard grain management system automates fan system control and grain care. When a set of predefined criteria are satisfied, the automated aeration control will activate the fans. This allows the fans to be run more efficiently, ensuring grain quality and lowering operational costs.

iGrain systems can be tailored to suit the needs of small-scale farmers as well as large-scale industrial storages of grain, beans, cocoa and coffee, as well as flour, feed and oil mills.

The core iGrain products monitor:

- CO₂ for most efficient infestation detection.
- Moisture level.
- Temperature.



IGRAIN SENSORS

- iGrain Sniffer Infestation Sensor
- CO₂ Monitoring
- Humidity Sensor
- Grain Moisture Sensor
- Grain Temperature Sensor
- Grain Level Sensor
- Fire Warning Sensor
- Platform Pressure Sensor
- Weather station
- Full and Empty Paddle Sensor

DIGITAL TECHNOLOGY

All iGrain sensor systems are digital and developed in-house. Our superior market position is based on our frontier sensor technology.

FLEXIBLE SENSOR CONFIGURATION

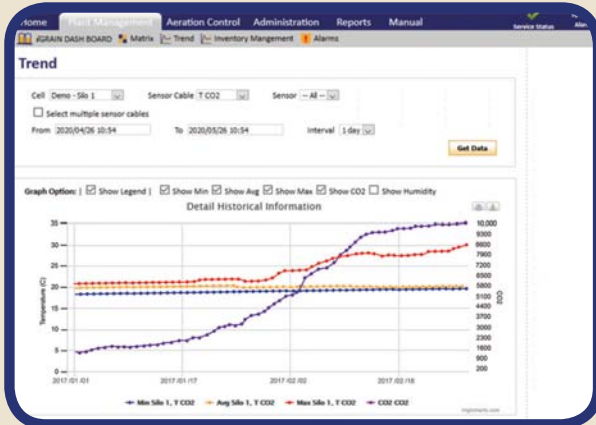
Sensors to match client needs, and easy integration with iGrain Dashboard.

IGRAIN CONTROL PLATFORM

We have 7 different Dashboard solutions in various cabinets with PCs or cloud based. We adapt to any size facility and any application.

IGRAIN DASHBOARD

- Trend Curves
- iGrain Silo Overview
- Matrix View all sensors
- Inventory Management



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Silo Auger Discharge System



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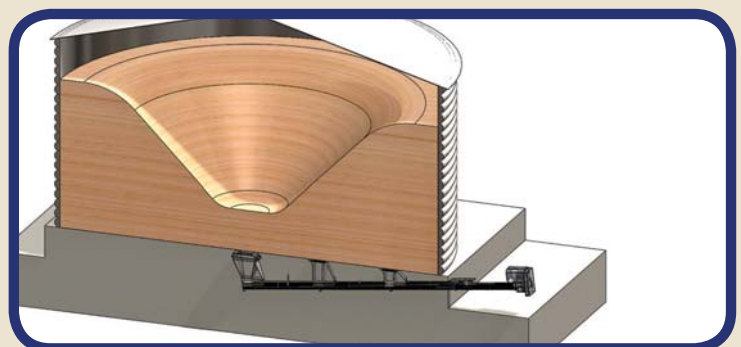
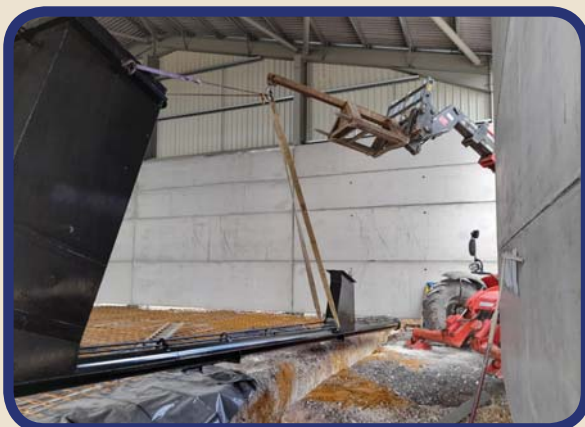
Our made-to-order Silo Auger Discharge System is purposefully designed to unload round flat bottom silos quickly and efficiently. With capacities available from 40tph to 240tph as standard, the Silo Auger Discharge System is ideally suited for commercial grain stores and smaller farms.

The system allows for maximum emptying efficiency as it is designed with one main inlet in the centre of the silo then multiple intermediate inlets spread from the centre of the silo out towards the edge of the base. Each inlet has rack & pinion control, allowing for full and individual control.

The purpose built system allows you to empty your silo quickly, easily and safely, in turn saving you both time and money.

Key features of the Perry Silo Auger Discharge System:

- 200, 250 & 300mm diameter agricultural and industrial specification.
- 40tph to 240tph as standard; other capacities priced on application.
- 3mm or 5mm tick casing tube.
- Gear unit or V belt drive options are available.
- Individual rack & pinion control of inlet slides.
- Two layers of bitumastic paint make them suitable for casting in concrete.
- Blockage probe at the discharge end.
- Conduit for sweep auger power cable, support legs and lifting lugs all welded in position.
- Inlet designed for sweep auger anchor plate, flush with silo base. Stainless steel slides and operating rods to aid long-term reliability.



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Agricultural Sweep Augers



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The agricultural sweep augers are designed to completely empty the bottom of flat silos that store cereals, seed or pulses.

They are manufactured with a modular construction from sheet metal which encloses an appropriately sized steel screw. Standard intermediate lengths of 1,500mm, 2,000mm and 3,000mm are available, but other lengths can be manufactured upon request.

The main components are:

- Drive end with gear motor.
- Discharge hopper.
- Slip ring.
- Helical screw.
- Screw support casing.
- Tail end with oscillating feet or wheel advancement.



Sweep augers rotate around the centre point of the silo. The augers allow for the product to be completely emptied from the silo to save time and stock.

Commercial Sweep Augers

Perry supply ODS industrial specification sweep augers which are the ideal solution for the removal of grain once silos are fully discharged by gravity.

The standard capacities range from 35m³ up to 800m³ and are designed to handle a wide range of products. Centre support frames are available in a range of sizes allowing for gravity discharging up to 2,000m³ per hour.

Motors can be either in-silo gearmotor drive units or in-tunnel motors using V belt drives.

The range of sweep augers can be installed in silos from 6m up to 42m in diameter. It is a reliable, fixable way to discharge silos, for small-scale systems to quayside installations. The range includes reclaimers for silos holding products such as meals and wood chips that are difficult to discharge.

As standard, these sweep augers are able to handle cereals (wheat, maize, barley), oleaginous (soya seeds, sunflower seeds, rapeseed), paddy, nuts, wood pellets, plastic pellets, soya meal, wheat bran, meat meal, sawdust, sludge, coal, plastic waste, sliced ice, fly ash.



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*SHAPA's 2017 & 2021 'Exporter of the Year' Award Winners &
2022 DIT Export Champions*

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