

PROCESS SOLUTIONS

For Crushed Stone, Sand & Gravel



mclanahan.com



Jaw Crusher



Jaw Crusher System



DDC-Sizer



Impact Crusher



Impact Crusher

FEEDING

A variety of McLanahan Feeders complement our equipment to deliver materials to the initial or downstream process.

Feeders

McLanahan Feeders provide a dependable means of conveying and metering material flow at the various stages within mine operation. Depending on the type of feeder, the materials will be conveyed by means of drag chain and flight, moving apron pans, vibrating reciprocating plates or rolling elliptical bars. The selection of the appropriate feeder design is based on the mineral size, weight, and desired conveyance rate, then programmed accordingly to affect the desired feed rate onto a conveyor, or into a crusher. Vibrating and Wobbler Feeders are designed to provide a scalping action to remove smaller particles from the material flow.

Like all McLanahan equipment, our Feeders deliver maximum performance with minimum power consumption. McLanahan Feeder types include: Apron Feeders, Drag Feeders, Reciprocating Plate Feeders, Reclaim Feeders, Vibrating Feeders and Wobbler Feeders.



CRUSHING ROCK

McLanahan is a world-wide leader in the innovative design and manufacture of crushing equipment that minimizes fines as it handles wet, sticky feeds.

Jaw Crushers

McLanahan's single-toggle, overhead eccentric Universal Jaw Crushers have earned a reputation as a "hard rock" crusher. Patented in 1906, the Universal Jaw is noted for its efficiency and rugged construction. Unlike some of its competitors, the Universal Jaw Crusher offers a steep toggle angle providing superior compressive action throughout the crushing chamber. These jaw crushers offer a wide range of discharge settings and a traditional hydraulic-shim adjustment. The new H-Series Jaw Crushers offer "adjust-on-the-fly" technology with finger tip control.

Impact Crushers

McLanahan offers an extensive line of primary and secondary impact crushers. With focus on versatility, we offer the right impactor selected equipped for specific applications to ensure efficiency, less downtime, and increased profitability. Each type of impactor is available in a wide selection of model sizes, and all available with "adjust-on-the-fly" technology. The Universal Impact line of equipment includes the MaxCap Primary, the VersaCap P-Series Primary, the NGS Secondary, and the VersaCap R-Series.



Roll Crusher Teeth



Hammermill Crusher

Hammermill Crushers

McLanahan's Universal Hammermill Crushers are known for providing superior reduction ratios in a variety of materials. Heavy-duty rugged construction allows for greater applied forces to achieve higher production rates with controlled product size and gradation.

DDC-Sizers

Over 50 years ago, McLanahan introduced low profile, compact DDC-Sizers to the brick and clay industry to handle wet, sticky feeds. Slow roll speeds allow the material to be grabbed more efficiently for primary limestone crushing.

The DDC-Sizer's heavy-duty compact drive makes anchoring the unit to the foundation unnecessary, so it can be mounted on tracks and rolled out from under hoppers or chutes for easier maintenance or to remove uncrushable material. The DDC-Sizer can handle capacities up to 6,000 STPH.

Roll Crushers

Roll Crushers are ideal for keeping fines generation to a minimum and/or efficiently handling wet, sticky materials that traditional primary crushers cannot. The combination of impact compression and shearing action breaks the material along inherent fracture planes. McLanahan Roll Crushers use innovative tramp relief systems (with no shear pins or gas cylinders) so there is no need to stop production if uncrushable material is in the feed. Crushers are available in Single and Double roll configurations to fit many application requirements.

SCRUBBING ROCK

McLanahan offers more equipment choices than any other manufacturer and can find the best solution to efficiently clean rock and generate high returns.

Rotary Scrubbers

Rotary Scrubbers can be used as a primary washing device to remove loamy, soluble clay or as a pre-washing device prior to crushing, screening and additional washing equipment. These units can be fitted with either single or double-shell screen extensions to dewater and separate materials. Trommel Screens or Trommel Scrubbers offer an efficient way to remove friable clays as they screen material.

Log Washers

Log Washers liberate plastic clay, soft rock or other friable waste. With replaceable, abrasion-resistant paddles fixed to a twin shaft design, an aggressive washing action breaks down even the toughest clay. A wash or rinse screen after the Log Washer ensures final removal of many coatings.

The new industry standard — the McLanahan X-treme Log Washer — is designed to handle much higher capacities. This specially designed log washer has a proven track record of achieving capacities that more than double the industry standard.



Rotary Scrubber



Rotary Scrubber



Log Washer



Coarse Material Screw Washer



Aggregate Conditioner



Recipe Sand Plant



In-Line Blending Sand Plant



In-Line Blending Sand Plant

Coarse Material Screw Washers

Coarse Material Screw Washers are used to remove light, loamy clays, crusher dust and other soluble waste fractions from feed materials. Each Coarse Material Screw is designed for specific applications by adjusting the number of paddles and the operating slope. Rising current helps lift waste fractions to the water surface where they are then floated over the back weir.

Aggregate Conditioners

Aggregate Conditioners are generally used as a pre-washing device prior to a variety of wet processing of both sand classification and coarse aggregate scrubbing. The Aggregate Conditioner is designed to break down water soluble clays, silts, and other deleterious materials from sand and/or coarse rock. Typically used for better screen efficiencies, or improved sand equivalency, the Aggregate Conditioner can be used in a variety of applications and capacities levels.

SAND PROCESSING

There are many ways to make sand products, so choosing between classifying tanks, attritioners, scrubbers, dewatering screens, screw washers, etc. can be difficult. McLanahan has over 100 years of experience and can help find the best solution for any application.

The two basic Fractionated Sand Plant styles (Recipe & In-Line Blending) were both pioneered in the U.S.A. by McLanahan. Both allow producers to maximize yield and produce accurate gradations in primary and specialty products. Every grain of sand has the potential to be used in a higher priced end product.

FRACTIONATED SAND PLANTS

Recipe Sand Plants

The Recipe Sand Plant is most versatile for producing sand. Using equipment that includes cyclones, Hydrosizers™ and dewatering screens, the systems produce discrete sand fractions for storage in bins. Based upon the desired end product, feeders at the bottom of these bins meter the exact quantity to meet the most stringent gradations. This type of system produces a myriad of construction sands and/or specialty sands.

In-Line Blending Sand Plants

The In-Line Blending Sand Plant offers the operator many of the same advantages as the Recipe Sand Plant, but at a reduced investment since storage bins are not required. After the sand is fractionated, a PLC based algorithm controls the ratios by which the fractions are blended on the fly. Highest yields, unlimited number of products and maximum return on investment are some of its benefits.

McLANAHAN OFFERS THE WIDEST RANGE OF SAND PROCESSING EQUIPMENT AVAILABLE!



Sand-Manager® Classifying Tank



Sand-Manager® Classifying Tank



Ultra Sand Plants

Sand-Manager® Classifying Tanks

Sand-Manager® Classifying Tanks use a simple method to remove excess water, slimes or undesirable grain sizes from natural or crushed sand feeds. By separating the sand fractions and rebinding them according to a computer program, multiple products can be made simultaneously from the same feed. Products from the Sand-Manager® Classifying Tanks are dewatered with Fine Material Screw Washers or Dewatering Screens. With low initial cost and easy operation, this system offers advantages to producers who are primarily interested in making concrete and mason sands.

Ultra Sand Plants

Systems for natural and manufactured sands that utilize Cyclones, Dewatering Screen(s), Sumps and Pumps are designed to control the bottom end of the sand spec while producing an improved yield of the driest possible product. Single and multiple product and modular plants are available.

Fine Material Screw Washers

Screw Washers are an effective way to wash, dewater, deslime and control the bottom end of the gradation. A large pool area provides maximum retention of desirable product sizes, while a rising current system floats off the excess fines. They are simple to operate and need only limited maintenance with low power consumption.



Fine Material Screw Washers



Stockpile From A Separator



Separator Cluster

Separator Systems

Separator Systems retain more of the critical finer fractions rather than sending them to settling ponds. This retained tonnage moves across the scale as a saleable product. In addition, sharper classification (unlike with conventional methods such as screws) can result in improved sand equivalency (SE). The Separator is the original patented controlled underflow Cyclone.

Dewatering Screens

In the late 1970's, McLanahan introduced dewatering screens, which quickly became the standard in the mining industry. Dewatering screens offer multiple advantages for construction and specialty aggregate producers, including a dry "drip-free" product that other types of equipment cannot provide. They provide better stockpile management and higher capacities, low power consumption and require less maintenance. Dewatering screens are used in many applications including dewatering products from sand classifying tanks and screws or within a system such as the recipe sand plant.



Dewatering Screens



Dewatering Screen



Attrition Scrubbers



Lites-Out™ System



Portable Jaw Plant



Portable Sand-Manager® Classifying Tank

CONTAMINANT REMOVAL

McLanahan can help turn an undesirable pit into a moneymaker, capture new markets and reduce complaints. Our solution driven systems can solve any problem.



Coarse Material Screw

Coarse Material Screws

Coarse Material Screws are an effective way to remove light, loamy clay or crusher dust and they can also remove floating vegetation such as sticks and twigs.

Attrition Scrubbers

Attrition Scrubbers are proven mineral processing techniques to effectively deal with deleterious materials that affect durability and SE. By creating an environment of high shear with state-of-the-art dewatering and desliming technologies, the process is a significant improvement over screw/blade-mill based processes, which are currently the industry standard.

Lites-Out™

Lites-Out™ Systems — either as a stand-alone system or as an add-on to an existing specialty sand plant — will remove lignite and other low gravity contaminants from sand. This unique, gravity-based process does not require the addition of any chemicals or heavy media such as Ferro-Silicon or Magnetite to achieve separation. This same technology can be used for soil remediation and construction debris applications.

FRAC SAND PLANTS

McLanahan specializes in the design and manufacture of equipment and complete wet processing systems for producing frac sands used in the oil and gas well drilling industry. From conception to completion, McLanahan's production is executed with total emphasis on quality. McLanahan focuses on the customers' needs and offers full support throughout the design, build, startup and maintenance of your project. McLanahan's unique fully integrated engineering, manufacturing and customer support system provides customers exactly what they need to maximize their profits and production.

PORTABLE PLANTS

McLanahan uses proven technologies in innovative ways to offer customized transportable (mobile systems) for primary sand production, classification, fines recovery, environmental projects and effluent treatment.

FINES RECOVERY

As an industry innovator, McLanahan has developed the largest range of fines recovery equipment available. Our customized systems recover usable product and reduce environmental liability.

Separator Systems

Recovery of +200/325 mesh (75/45 micron) material using the separator system is the simplest, most cost-effective way of recovering sellable fines from waste streams. Systems feature the original Separator (either single or multiple units) coupled with a McLanahan rubber-lined pump to provide trouble free, low maintenance operation. Recovered material can be selectively blended back into Screws, road base mix or stockpiled as a stand alone product such as mortar, tile, cable fill, flowable fill, AgLime, etc.

Ultra Fines Recovery Plants

An Ultra Fines Recovery System (UFR) makes it cost effective to recover +400 mesh (38 micron) fines as a conveyable, stackable product. Featuring field proven equipment, this system provides the finest size fraction recovery available without the use of chemicals. The modular construction keeps installation costs low and the integrated design makes start-ups faster. No chemicals or polymers are needed and the cyclones stay clog free. Our larger cyclones are less prone to plugging while recovering.

WATER MANAGEMENT

McLanahan leads the way in providing complete effluent treatment/water management solutions.

Thickeners

The McLanahan-designed High Rate Thickener is simple in design and operation with specific benefits for today's producers. After removing usable materials from the effluent stream, Thickeners recover immediately re-usable process water adjacent to the plant site. The availability of water at the point of use substantially reduces pumping HP. Because the volume of the Thickener's effluent is small, there's no need for large settling ponds and process water ponds that take up valuable real estate and other resources. This reduces water consumption and mitigates environmental issues.

Ultra Deep Cone & Paste Thickeners

McLanahan offers the extension of their line of thickeners to formally include McLanahan Ultra Deep Cone and Paste Thickeners. These technologies are offered to produce underflow densities that are often not achievable with standard high rate thickeners. Paste underflows, by definition, reach a non-segregating state. For the producer, the benefits of this performance include:

- Maximum water recoveries from a gravity settling device
- Reduction of tailings dam infrastructure
- Production of an underflow that may be suitable for surface deposition
- Higher wash efficiencies for CCD circuits
- Less loss of water to evaporation
- Smaller settling ponds

Recessed Plate & Membrane Plate Filter Press

McLanahan's fully automatic Filter Presses have revolutionized the process of dewatering fines. They are easy to install, integrate and operate and they provide the most efficient, cost-effective operation in the industry. McLanahan Filter Presses can eliminate the need for slurry ponds and a full time operator. They typically use no chemicals compared to belt presses and come with the self-correcting Smart Hydraulics system. McLanahan Filter Presses provide increased water recovery and produce drier cakes.



Ultra Fines Recovery Plant



Ultra Fines Recovery Plant



High Rate Thickener



Ultra Deep Cone & Paste Thickener



Recessed Plate Filter Press



Pump

ADDITIONAL PRODUCTS



Aggregate Sweep Sampler

Aggregate Sweep Sampler

McLanahan's Aggregate Sweep Sampler is designed specifically for aggregate processing to capture material down to sand grains in size. Aggregate Sweep Samplers are an automatic and economical way to easily, safely and accurately collect samples from a moving conveyor belt. They are safer because they eliminate the need for "grab" samples. They reduce out-of-spec product piles and increase sampling accuracy. The conveyor stays on the move and saves time and money.

Pumps

The range of rugged horizontal spindle, centrifugal slurry pumps is designed for the most severe duties. Field replaceable, wet-end linings are available in premium rubber, white food grade rubber, nitrile and high chrome iron. Vertical configuration is available on special order, and vortex flow impellers are available for fibrous materials.

Other Systems

- Soil Remediation, lead shot and bottom ash separation
- Classifying in Millings Circuits to prevent over grinding in mineral sands, iron ore and coal
- Wash circuits for removal of reagents (e.g. Phosphate acid wash circuits)
- Classification and separation of minerals
- Pug Mill Mixers
- Rotary Screens

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