

CHOPPER PUMPS FOR DAIRY INDUSTRY

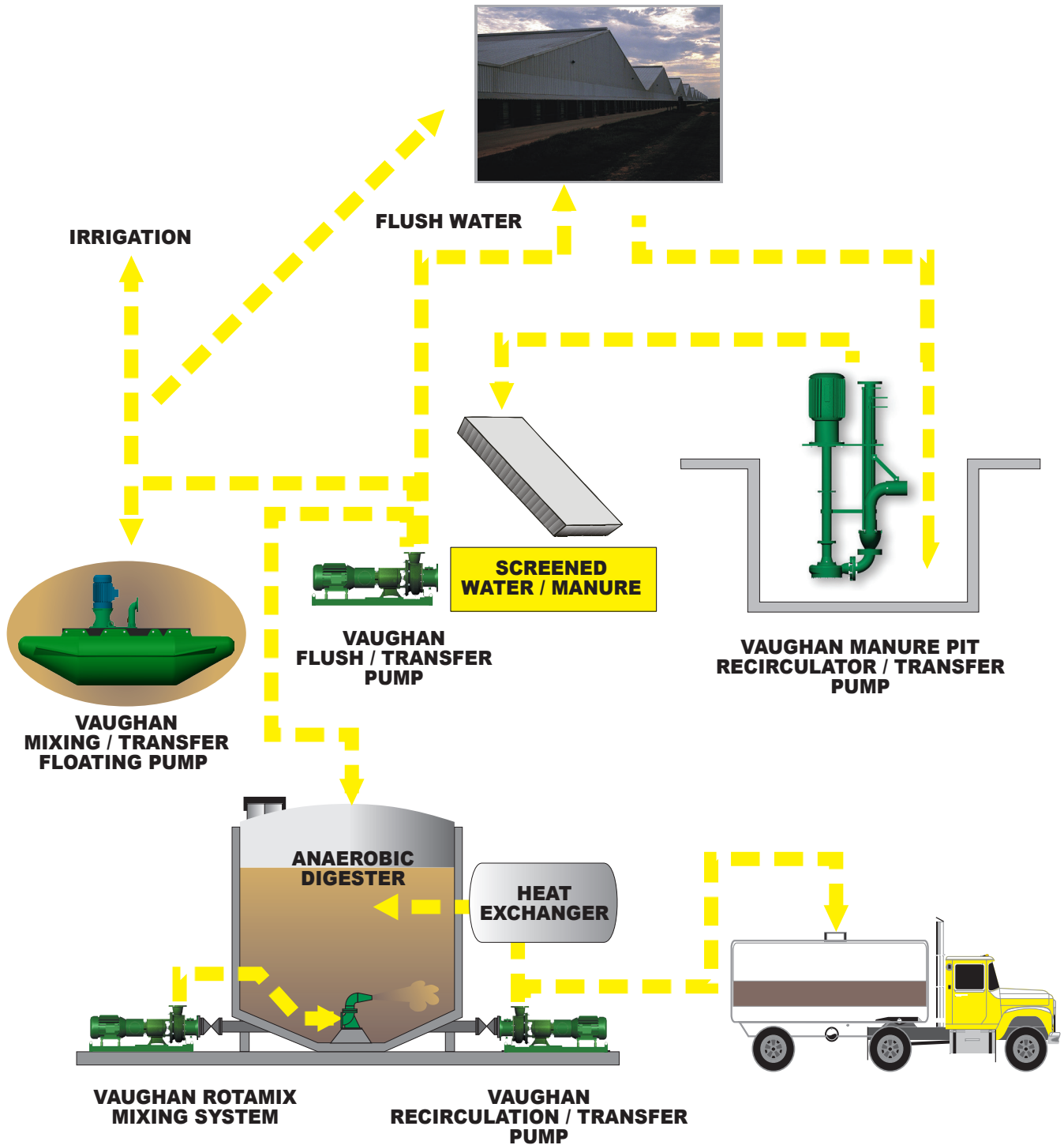


 **Vaughan**[®]
Unmatched Reliability



DAIRY FLOW DIAGRAM

**ANIMAL HOLDING FACILITY
/ MILK BARN**





WHY A VAUGHAN CHOPPER PUMP?

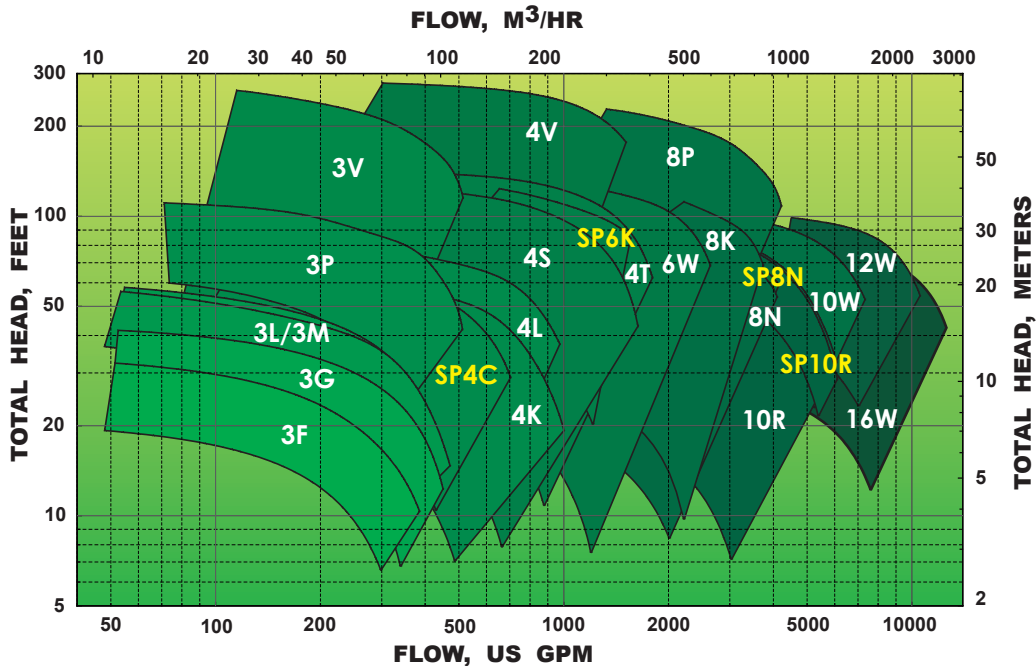
In the late 1950's, while Jim Vaughan and his son Larry worked in their repair shop helping local dairy farmers fix clogging manure systems, they came up with a plan to solve the problem entirely – the development of the original Vaughan Chopper Pump. Today, the invention has multiple patents and is known worldwide in all industries as the pump of choice for RELIABILITY in heavy solids pumping.

THE CONCEPT

- The upper cutter keeps the mechanical seal area clean
- The chopped solids are easily pumped through the system without clogging
- Solids are chopped by the sharpened edges of the impeller cutting against the cutter bar
- The disintegrator tool (optional) breaks up large solids before entering the pump

FEATURES AND BENEFITS

- Oil bath bearings - self cooled and lubricated, needs no water flush
- Heavy duty seal and bearing system - longer life in severe service
- Ductile iron casing and bearing housing - heavy castings for long life
- Heat treated cast steel wear parts - for longer life in abrasive grit service
- Most parts readily available from stock for expedited delivery



VERTICAL WET WELL CHOPPER PUMPS

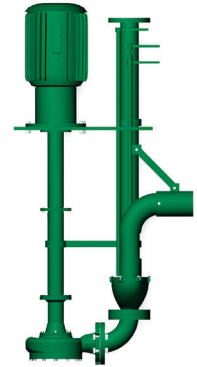


VERTICAL WET WELL

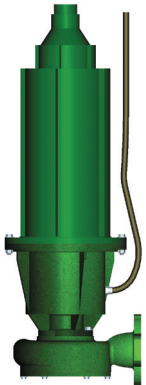
- Vaughan's most popular sump pump
- Sump depths up to 26'
- Reliable mechanical seal/oil bath design
- Eliminates suction piping
- Keeps motor and wiring out of the pit

RECIRCULATOR OPTIONS

- Allows Vaughan Wet Well and Submersible Pumps to be used for mixing/pumpout of pits up to 26' deep
- Ideal for mixing of floating or settled solids



SUBMERSIBLE CHOPPER PUMPS

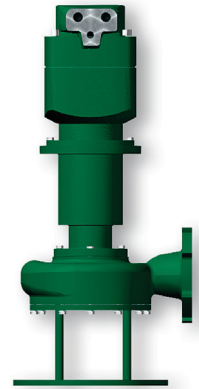


ELECTRIC SUBMERSIBLE

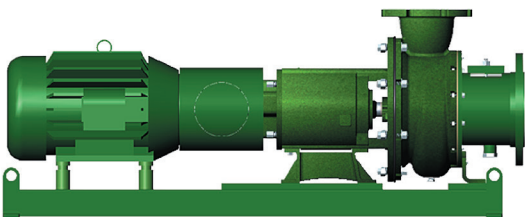
- Separate seal/bearing housing isolates motor from pumpage
- Retrofits to most guide rail systems
- Ideal for deep sumps
- Eliminates visible motor and piping
- Recirculator options available

HYDRAULIC SUBMERSIBLE

- Portable pump for tank cleaning
- Lighter weight than other submersibles
- Ideal for mobile equipment



DRY WELL CHOPPER PUMPS

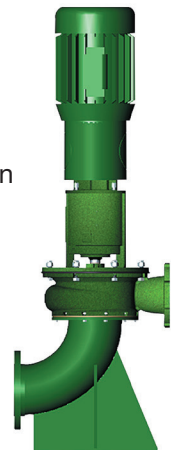


HORIZONTAL

- Vaughan's proprietary mechanical seal design
- Available in direct or belt drive
- Adjustable back pull-out design

VERTICAL DRY PIT

- Used primarily in dry well applications where floor space is limited
- Vaughan's proprietary mechanical seal design



Rotamix FOR DAIRY

COMPONENTS

ROTAMIX® MIXING ASSEMBLIES

- Offered in single and double nozzle configurations
- Designed for permanent fixed installation – no moving parts in the tank
- 1” thick glass lined nozzle barrels protect against effects of abrasion, corrosion and struvite formation
- All mixing assembly components are glass lined with 60+ Rockwell C hardness
- Exterior coated with 3M Scotchkote Fusion Bonded Epoxy
- Mixing assemblies include a 10-year full warranty
- Stainless Steel and High Density Polyurethane materials available for corrosive applications



VAUGHAN® CHOPPER PUMPS

- Reliable chopping action reduces solids size
- Oversized shafting and bearings extend pump life
- Conditioning of solids increases surface contact and enhances volatile solids destruction
- Over 55 years of expertise behind every pump

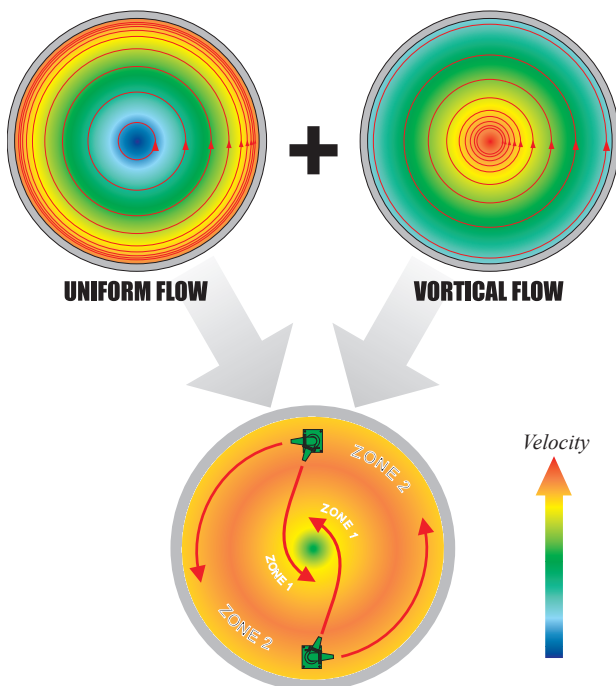
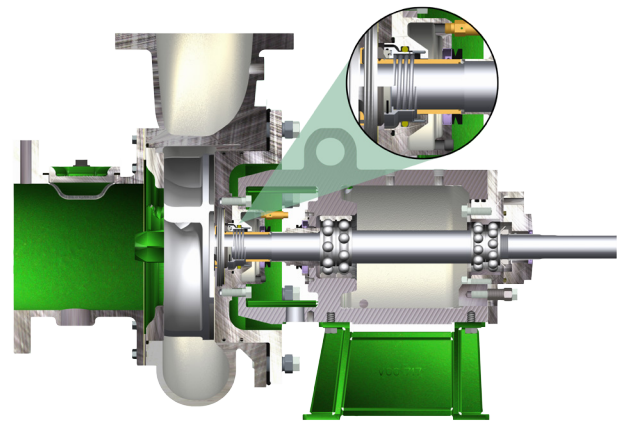


Figure 1 - Dual-rotational zones

THE CONCEPT

The Rotamix® System incorporates several basic principles of physics and hydraulics, including uniform field of flow, vortical field of flow, induced flow and service contract. Combined together, this unique mixing system optimizes solids and bacteria contact while creating an even distribution of mixing energy.

DUAL-ZONE MIXING

- Uniform field creates velocity at outside perimeter
- Vortical field creates velocity at center, resuspending solids migrating towards the center of the tank
- Uniform & vortical fields create “Dual-Zone Mixing”

SURFACE CONTACT

- Reduced solids size from Vaughan Chopper Pump enhances solids contact with helpful bacteria
- Increased VSR results in increased gas production

SPECIALTY PRODUCTS FOR DAIRY

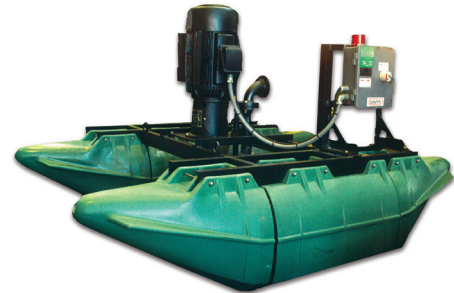
TURBO MIXER

Vaughan's Turbo Mixer is a propeller mixer mounted vertically inside an 18" elbow. This mixer has replaced many of the competitors' propeller mixers that experience failed motors and gearboxes. The Turbo Mixer can mix a pit with only one foot of liquid above the floor, something other mixers cannot do. The Turbo has been used extensively in dairy manure mixing and in municipal treatment plant anoxic zone mixing and in oxidation ditches. An optional add-on turntable can allow the Turbo to be easily re-aimed in the pit.



FLOATING PROP MIXER

Vaughan's Floating Prop Mixer is a floating platform with an 8.5 ft long open propeller mixer mounted on it. The propeller mixer is mounted on the platform with an adjustable mount so that it can be raised up for shipping or lowered down into the fluid for mixing. It is used for mixing lagoons or open topped tanks when crusts develop. Units typically use 10-20 HP motors.



UNMANNED FLOATING PUMPING PLATFORM

Vaughan's Unmanned Floating Pumping Platform uses a simple float designed to support a short, 2-ft long chopper pump. A floating discharge hose can be attached to this pump to allow lagoon, tank, or pit pumpout. A variety of pumps and motors can be mounted on several sizes of floating platforms, and a variety of materials of construction can be used for the pumps.



PORTABLE BY-PASS TRAILER

Vaughan Company now offers a series of portable pump package options that include our Dry Prime Horizontal End Suction Chopper Pump in 3"-16" models, our Wet Prime Horizontal End-Suction Triton Screw Pumps in 3" to 12" models and our Wet Prime Self Priming Chopper Pumps in 4"-10" models. We have partnered with Premier Pump and Power to supply our pumps on either a trailer or skid mounted platform powered by either a diesel engine or electric drive. Sound attenuated options are also available.



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