



Division of McNish Corporation



Circular Clarifier Mechanisms

Clarifier Mechanisms

Options/Accessories

- Bridge Supported
- Pier Supported
- Energy Dissipating Influent Wells
- Spiral Flights
- Plow Flights
- Tapered Suction Headers
- Suction Pipe Type
- Hydraulic Trough Type
- Ducking Skimmers
- Full Radius Scum Trough/Skimmer
- Scum Flushing Mechanisms
- Density Current Baffles

Walker Process has a tradition of supplying the industry's highest quality and most reliable clarifier mechanisms from basic bridge or pier supported mechanisms to those with the most complex and demanding special requirements. Walker mechanisms are driven by Walker designed and manufactured drive units that have corrosion resistance and precision ratings superior to any drive on the market, and exceed the industry's highest standards.



Walker Process standard clarifier mechanisms are highly modifiable and can be equipped with almost any combination of plow-type straight-blade or spiral flights, rapid sludge removal devices such as tapered suction headers or individual suction pipes.

Standard designs exist for traditional basic mechanisms for a wide range of tank sizes. These standard designs provide time-tested, effective, low cost mechanisms that meet all current design codes with minimal engineering costs.

Bridge Supported mechanisms are supported from a structural bridge that spans the tank diameter and are generally used for the lower end of the range of clarifier diameters. Standard designs are available for tank sizes with diameters from 20 ft. (6.1m) through 55 ft. (16.77m). Custom designs are used for tank sizes beyond either end of this range.

Pier Supported mechanisms are supported by a center pier and are used for larger diameter applications. Standard designs are available for tank sizes with diameters from 35 ft. (10.67m) through 165 ft. (50.3m). Custom designs are used for tank sizes beyond either end of this range.



- 1 Pier Supported
- 2 Bridge Supported
- 3 Large-Diameter Custom Designed Pier Supported Collector





4

Custom designed mechanisms have the advantage of including decades of detail improvement included on standard designs and specific modifications to meet unique requirements. Walker Process provides custom structural and mechanical designs by licensed engineers to meet our own design standards as well as all specific requirements of project specifications. These designs are in response to the industry's continuous desire to improve equipment through the joint efforts of owners/operators, consulting engineers and equipment suppliers. Custom details include specified features that provide more effective operation of the clarifier, greater life to the equipment and greater convenience and safety for the operators.

SightWell – individual suction pipes, each visible from the SightBox.

MultiDraw – tapered suction header.

Solids Contact Mechanisms provide a superior combination of rapid mix, flocculation, settling and collection within one basin. The **MC ClariFlow** utilizes an axial flow slurry recycle pump within the center pier, where raw flow and recycled slurry from the clarifier bottom are intimately mixed and discharged to the mixing zone.

Thickener and Sludge Blending Mechanisms are designed with features developed from years of experience and the specific requirement of project specifications. These rugged mechanisms may be designed for high-torque for thickening or high-speed for blending applications and may include pickets, hung flights, armlift mechanisms and anti-tilt features to protect against unbalanced sludge loads.

Options/Accessories

- Corner Sweeps
- Seismic Design
- Stainless Steel Construction
- Flocculating Type
- Solids Contact
- Thickeners
- Hung Flights
- Pickets
- Arm-Lift Assemblies
- Drive Mechanisms
- Sludge Blending Mechanisms



5



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9

4 Pier Supported Clarifier Mechanisms

5 Solids Contact Clarifier

6 Spiral Flights

7 SightWell Collector

8 MultiDraw with Tapered Suction Headers

9 Pier Supported Thickener

Skimmers/Drives



10



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10 Peripheral Skimmer

11 Full Radius Scum Trough and Skimmer

12 Ducking Skimmer



Spur Gear Drives for Pier Supported Collector Mechanisms

Walker Process Spur Gear Drives are precision Class 6 gear assemblies (after heat treatment) and include a split spur gear ring that allows access to replaceable bearing race inserts. Housings are machined from cast iron to provide the highest level of precision, extremely high corrosion resistance, and very long life. The drive design and torque ratings are in full conformance and certifiable to the latest ANSI/AGMA standards.



Worm Gear Drives for Bridge Supported Collector Mechanisms

Walker Process Worm Gear Drives for bridge supported collectors consist of a single piece alloy steel worm and worm shaft, matched to a centrifugally cast manganese bronze or cast iron worm gear, and housed in a precisely machined high grade cast iron housing. These drives are simple, rugged and are known for extra long life with minimal maintenance.

SEDIMENTATION & THICKENING

Circular Collectors & Thickeners
 Bridge Supported
 Pier Supported
 Plow Type, Spiral Flights,
 MultiDraw, SightWell
 UniMix Flocculating Clarifiers
 Spur Gear Drives (Precision Class 6)
 Rectangular Collector Mechanisms
 HeliThickener

BIOLOGICAL PROCESS

EnviroDisc® RBC – Rotating
 Biological Contactor
 Rotary Distributors

GRIT REMOVAL

RollingGrit
 GritWasher
 HydroSeparator

SOLIDS CONTACT CLARIFIERS

MC ClariFlow
 RollFlow™ Clarifier

SLUDGE DIGESTION

Covers – Fixed, Floating,
 GasHolder, Combination
 GasLifter Digester-Mixer
 HeatX – Heat Exchanger, Boiler,
 Combination Units
 RollAer – For Aerobic Digestion

SKIMMING

HeliSkim
 RotoDip Skimmer
 GreasePrep – Skimmings &
 Grease Preparation Systems

WATER TREATMENT

Solids Contact Clarifier Type MC
 Flocculating Clarifier Type UC
 Paddle Flocculators
 UniMix Flocculators
 InstoMix Flash Mixer
 Cascade Tray Aerators

Walker Process Equipment

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