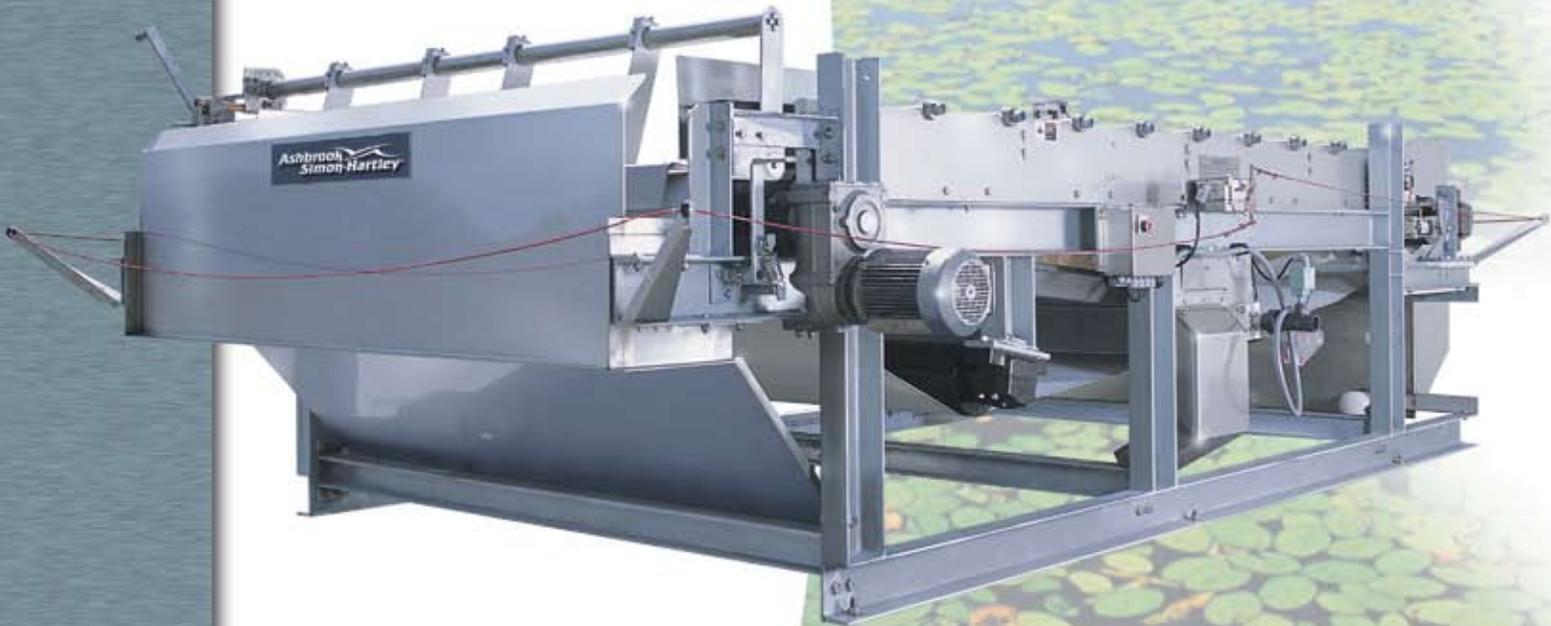


AQUAbelt®



ADVANCED, FULL SCALE

THICKENING SYSTEM



Ashbrook
Simon-Hartley®

WATER AND WASTEWATER TREATMENT SOLUTIONS

Ashbrook Simon-Hartley® AQUAbelt® TECHNOLOGIES

ADVANCED AQUAbelt® TECHNOLOGIES provide the most efficient means of thickening dilute process streams, while providing total process flexibility. For municipal and industrial applications, the AQUAbelt® line is the number one choice for all thickening requirements. In fact, there are more AQUAbelt® thickeners installed and operating in the marketplace than any other alternative. This gives Ashbrook Simon-Hartley® unparalleled experience and knowledge in thickening technologies.



Specific solids levels, as well as polymer and power consumption rates are guaranteed—an Ashbrook Simon-Hartley® exclusive.

Uniquely, AQUAbelt® provides infinite control over thickened solids levels in the key operational ranges (from four to six percent solids) as well as all Newtonian fluid ranges (from zero to eight percent solids). This is made possible by patented, proprietary, and proven technologies that thoroughly optimize the thickening process.

The AQUAbelt® line includes a full range of system sizes to allow the selection of a configuration that is appropriate in scale. Also, the AQUAbelt® is the industry's only gravity belt thickener with technologies advanced enough to guarantee specific solids levels, as well as polymer and power consumption rates.

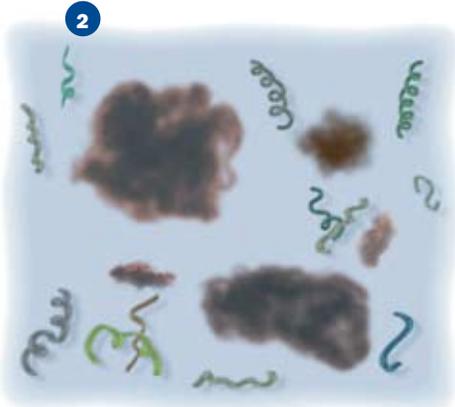
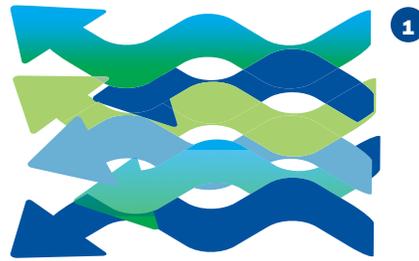
0.5
METER

1.0
METER

1.5
METER

2.0
METER

1. Conditioning Zone Optimized thickening begins with the proper > conditioning of the slurry. The Ashbrook Simon-Hartley® AQUAbelt® is equipped with a proprietary, variable orifice, in-line polymer mixer that combines polymer and slurry instantly to facilitate rapid flocculation. In addition, AQUAbelt® technology keeps polymer usage to a minimum, dramatically reducing operational costs—guaranteed.

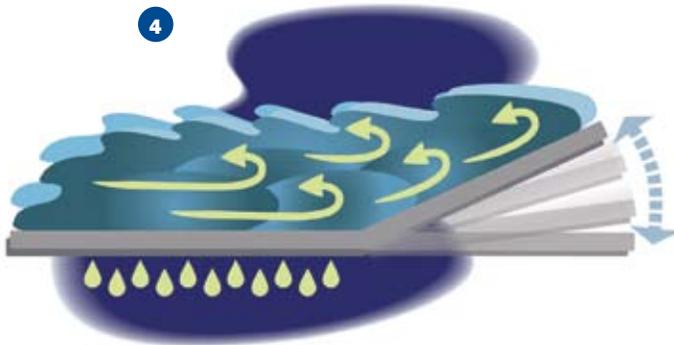
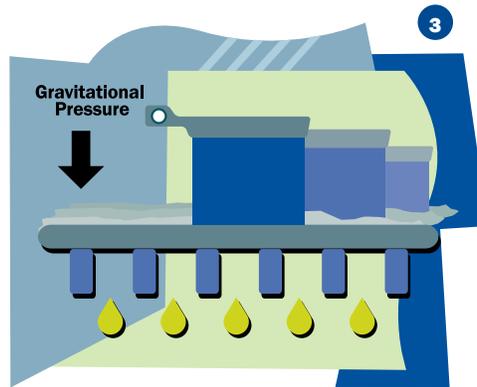


2. Advanced Flocculation Zone
 This zone provides a reduced-turbulence interval prior to the introduction of the slurry to the Gravity Thickening Zone. This allows additional flocculation attraction-dynamics to occur, which optimizes polymer effectiveness.

ZONE APPROACH

Optimizes Thickening Process

3. Gravity Thickening Zone >
 This zone effectively separates filterable liquids from the process solids and dramatically reduces the volume of the retained slurry. Rapid drainage is encouraged with the use of proprietary chicanes and geometrically optimized wiper bars.



4. Extended Thickening Zone
 The Ashbrook Simon-Hartley® AQUAbelt® is the only thickening system with an infinitely controllable Extended Thickening Zone. By employing the patented AQUAbelt® ramping device, detention times and turbulence levels can be controlled while operating to deliver specific solids-to-liquid ratios in the effluent. This provides optimized process flexibility well beyond all other thickening options.

30
METER

40
METER



AQUAbelt®



Optimized engineering provides maximum flexibility, reliability, and ease of use



The filter belt wash station on the AQUAbelt® is fitted with a papermachine-quality wash system. Internal cleaning brushes are provided at the cleaning station to keep the shower nozzles open and free flowing. A re-cycle system option is available when enhanced capture rates are needed.

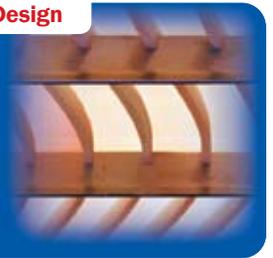


Individually Adjustable Chicanes

AQUAbelt® chicanes are individually adjustable for optimum plowing efficiency and pivot automatically to allow obstructions to pass without damming.

Optimized Wiper Bar Design

The specialized, high-density polyethylene wiper bars employed in the AQUAbelt® gravity drainage zone are optimally spaced to facilitate filtrate removal.



Auto-Sensing Belt Tensioning System

Operator specified belt tensioning is automatically maintained by the AQUAbelt® Tension-Management system, recognizing subtle condition variations such as belt stretching. Tension outside of the preset tension range will signal the AQUAbelt® Control Center.

4



Pre-Installed Hydraulic Power Unit

The hydraulic power unit on the AQUAbelt® is frame-mounted and self contained to minimize on-site installation requirements.



Patented Adjustable Ramp

The unique AQUAbelt® ramping device allows the percentage-of-thickened-solids level to be precisely adjusted and fine tuned while operating. This provides the user with full process flexibility. No other technology can match this capability.



Optimized Frame Design

Employing the science of *finite element analysis*, frame components are optimized to ensure rigidity and accurate permanent alignment. Open design maximizes access and allows visual inspection of all internal components. (Frame available in hot-dipped-galvanized, carbon steel, or stainless steel.)



Auto-Sensing Belt Alignment System

AQUAbelt® belt alignment is assured through the use of the legendary auto-sensing, hydraulic steering system (available on most models). This self-contained system provides continuous, smooth guidance control without the need for operator intervention.



Choice of Drive Technologies

The Ashbrook Simon-Hartley® AQUAbelt® is available with mechanically variable drives or electronically variable frequency controller based drive technology.



The AQUAbelt® control center employs advanced digital, programmable logic circuits to automate operation and minimize the need for operator attention.



Digital Control Center



The arrangement of the AQUAbelt® gravity thickening zone ensures the even distribution of the conditioned slurry over the effective width of the moving filter belt.

Large Retention Tank

The exceptionally large retention tank allows the flocculation process to be optimized in a quiescent state. This improves thickening capabilities and optimizes polymer effectiveness.



GRAVITY THICKENING ZONE

LIFETIME-RATED BEARINGS



PROPRIETARY POLYMER MIXER

The AQUAbelt® is equipped with a proprietary, variable orifice, in-line polymer mixer that combines polymer and slurry instantly (in less than one second at 60 GPM*/LPS 3.78*). This advanced, non-clog, static mixer is known for the mixing precision and adjustable throat which allow direct control of mixing energy. Its design optimizes polymer effectiveness and minimizes polymer consumption.

ARMORDILLO® Thickening Belts

The Ashbrook Simon-Hartley® AQUAbelt® is provided with high-performance ARMORDILLO® thickening belts. Application specific weaves and materials are available to optimize liquid/solids separation.



The AQUAbelt® is equipped with lifetime-rated bearings. Each bearing is protected from contaminants with triple-labyrinth seals and shaft-mounted splash guards.



The premium belt scraper employed on the AQUAbelt® effectively removes lumped or partially embedded solids from the belt and serves to extend belt life, while preempting solids carryback.

Belt Scraper

Optimized Roller Design

The strength of the rollers on the Ashbrook Simon-Hartley® AQUAbelt® are optimized through the use of specialized forged steel construction. Drive rollers are coated with Buna N rubber and all other rollers are coated with thermoplastic nylon or optional stainless steel clad, as needed.



*GPM=Gallon(s) Per Minute, LPS=Liter(s) Per Second

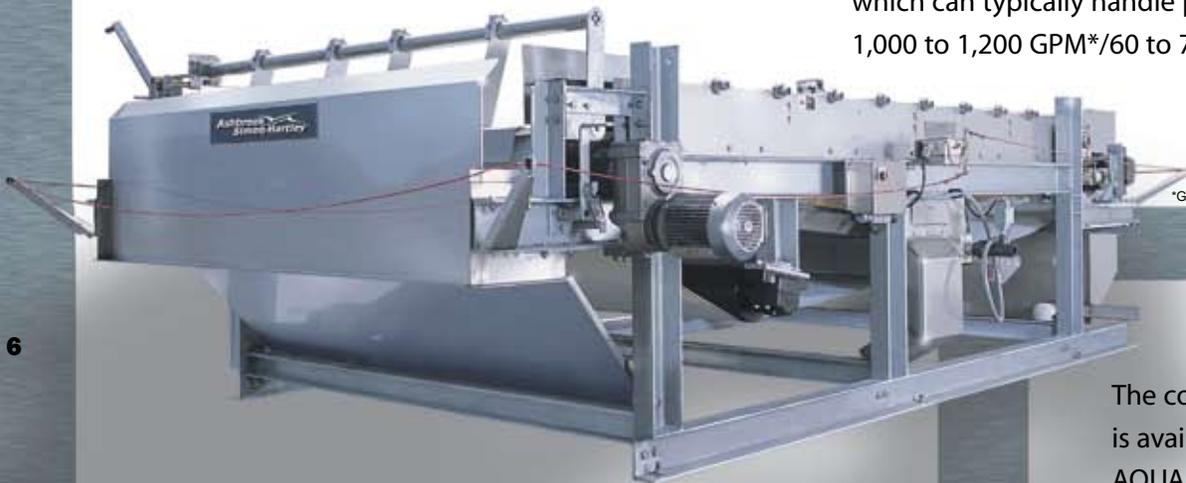
AQUAbelt®

Featuring a Full Range of System Sizes Designed to Meet Virtually Every Process Volume Requirement

AQUAbelt® STD

The standard AQUAbelt® is provided as a complete thickening system and is available in five different capacities—from the 1 meter unit, which can typically handle process volumes in the 250 to 300 GPM*/15 to 18 LPS* range; to the 4 meter unit, which can typically handle process volumes in the 1,000 to 1,200 GPM*/60 to 72 LPS* range.

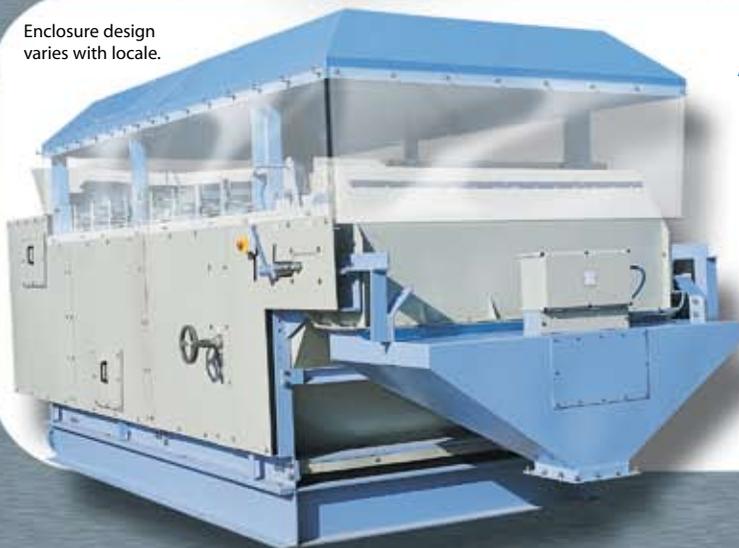
*GPM=Gallon(s) Per Minute, LPS=Liter(s) Per Second



- 1.0 METER
- 1.5 METER
- 2.0 METER
- 3.0 METER
- 4.0 METER

The compact-enclosed AQUAbelt® is available in the same sizes as the AQUAbelt® COMPACT, with the only difference being the addition of the highly-effective Ashbrook Simon-Hartley® odor-control enclosure.

Enclosure design varies with locale.



AQUAbelt® STD – Enclosed

The enclosed standard AQUAbelt® is available in the same sizes as the AQUAbelt® STD, with the only difference being the addition of the highly-effective Ashbrook Simon-Hartley® odor-control enclosure.

- 1.0 METER
- 1.5 METER
- 2.0 METER
- 3.0 METER
- 4.0 METER

ASHBROOK SIMON-HARTLEY® LONG-LIFE™ PROGRAMS

Every Ashbrook Simon-Hartley® AQUAbelt® is guaranteed to perform to your specific requirements and is available with the full array of legendary Ashbrook Simon-Hartley® Long-Life™ programs including:

- **Custom Maintenance Programs**
- **On-Site Inspection-Evaluation Plans**
- **Extended Parts Warranty Plans**
- **Classroom and Hands-On Training**

AQUAbelt® COMPACT – Enclosed

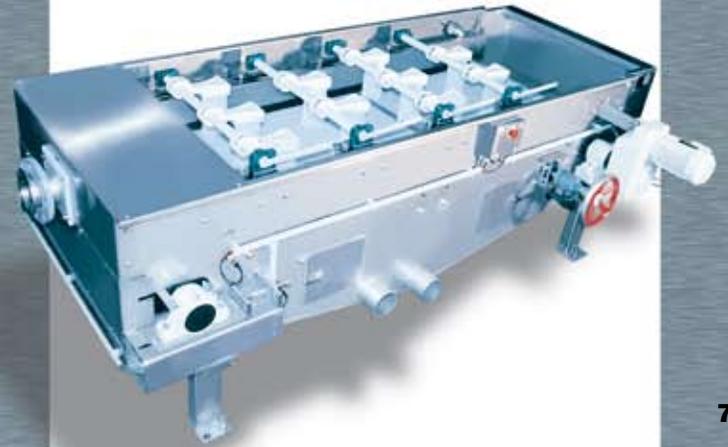


0.5
METER

1.0
METER

AQUAbelt® COMPACT

The compact AQUAbelt® is provided as a complete thickening system and is available in two capacities—the half meter unit, which can typically handle volumes in the 125 to 150 GPM*/7 to 9 LPS* range and the 1 meter unit, which can typically handle volumes in the 250 to 300 GPM*/15 to 18 LPS* range.



0.5
METER

1.0
METER

*GPM=Gallon(s) Per Minute, LPS=Liter(s) Per Second

All Ashbrook Simon-Hartley® AQUAbelt® models are also available in 304 or 316 stainless steel.



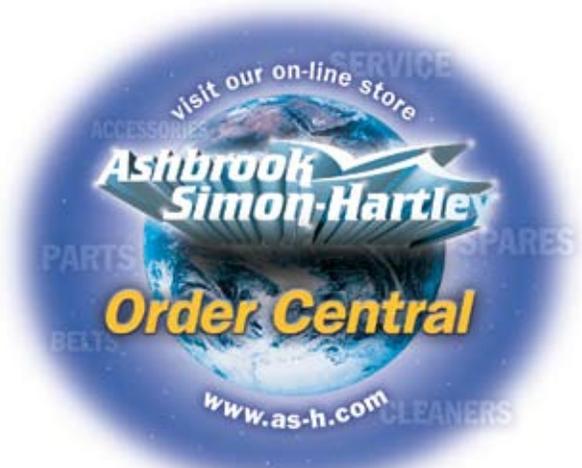
Featuring the Industry's Most Advanced and Fully Optimized Process Options, Including:

- Activated Sludge Technology
- Selector Technology
- Membrane Bioreactor
- Aerobic Digestion to achieve Class "B" Biosolids
- Nitrification/Denitrification
- Tertiary and Ultrafiltration
- Phosphorus Removal
- Disinfection Systems

Ashbrook Simon-Hartley Also Provides a Comprehensive Line of Fully Optimized Equipment and Systems, Including:

- Aeration Basins and Equipment, Including Diffused Aeration Systems
- Membrane Bioreactors
- Clarifiers
- Liquid/Solids Separation Technologies
 - Tertiary Filtration
 - ▲ Denitrification
 - ▲ Rapid Rate/Gravity Sand
 - ▲ Continuous Backwash
 - Ultrafiltration Membrane
 - High Performance Belt Filter Press Technologies
 - High Performance Belt Thickeners
 - Advanced Centrifuge Technologies
- Disinfection
 - Solution Feeders
 - Ultra-Violet
- Pasteurization and Digestion to Achieve Class "A" Biosolids
- Flow Equalization
- Primary Treatment
- Lift Stations
- Bar Screens and Grit Collection
- Electrical Controls & Automated Systems (PLC and SCADA)
- Ground Water Contamination Remediation
- Industrial Process Wastewater Treatment
- Advanced Flow Control Technologies
 - Sluice Gates and Weir Gates
 - Flap Valves (Rigid and Flexible)
 - Stop Logs and Gates
- Mobile Dewatering

Plus, Comprehensive Installation Services As Well As Optimized Rebuilds, Retrofits and Spare Parts.



Try the eAnswers Cyber-Space Option

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www.as-h.com

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