Sludge collection products built on experience.

MRI Hoseless Cable-Vac eliminates the hose.

Only the MRI Hoseless Cable-Vac™ sludge collector* delivers all the benefits of suction sludge removal without the need for hoses. Perfect for use in new or existing basins, the patented system has four key components:

- Tandem header pipes with tangential flow nozzles* optimize sludge removal
- Telescoping sludge conduit* eliminates the need for hoses and is self-priming
- Reel-to-Reel Drive* ensures reliable power without tensioning
- MRI’s signature control system combines sophisticated operation with communications

MRI U/S Ultra-Scraper doubles performance.

Equipped with double-acting, reciprocating linear blades, the MRI U/S Ultra-Scraper is two times more effective than conventional scrapers. The high-capacity system has four key components:

- Two transport racks with scraper blades are assembled without field welding
- Reliable drive unit uses either hydraulic or electric power
- Cross collector optimizes sludge removal
- MRI’s signature control system offers easy adaptability

MRI Retro Cable-Vac available as new system or retrofit.

In addition to the Hoseless Cable-Vac and U/S Ultra-Scraper, MRI offers the Retro Cable-Vac, with flexible hoses and guide rails. The Retro Cable-Vac is based on the original “Trac-Vac” system created by MRI in 1980. With well over 2,000 Trac-Vac systems sold, many have been refurbished to become like-new Cable-Vac sludge collectors. The Retro Cable-Vac is also available as a new system and consists of five main components:

- A single header pipe mounted on a traveling carriage
- A guide rail which extends the full tank length
- A sludge hose to transport the sludge from the header pipe out of the basin
- A Reel-to-Reel cable drive
- Control system

Meurer Research, Inc. began developing high-quality equipment in 1978 to provide water and wastewater treatment facilities with effective, reliable and economical methods of removing sludge from sedimentation basins. Over the years, MRI has built upon these standards by incorporating new ideas and technology into the design and manufacture of its products. The result is three fully engineered devices: one based on suction, the Hoseless Cable-Vac; one based on scraping, the U/S Ultra-Scraper; and one based on tradition, the Retro Cable-Vac.
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Adaptable control system enables sophisticated operation.

The operator-friendly control system automatically displays and manages all functions of the sludge collector. Through a programmable, menu-driven LCD touchscreen, MRI control systems offer sophisticated SCADA and communications options and are powered by Rockwell International/Allen-Bradley. Variables include duration, speed, and frequency of operation which can be triggered by sludge depth, time, or signals from SCADA.

Innovative tandem collectors maximize efficiency.

The key to the Hoseless Cable-Vac’s ability to deliver increased solids removal is the innovative design of its tandem collectors.

Unlike conventional equipment, MRI’s system has two collectors instead of one, with sludge collection orifices located on the side and facing forward, rather than pointing downward. This allows for enhanced, one-way directional sludge extraction as the assembly moves forward. On the reverse stroke, suction ceases. The orifices direct the sludge into the collection pipe tangentially (see illustration above), organizing the flow to remove more solids with less water and prevent clogging.

Unlike other systems, MRI’s Hoseless Cable-Vac operates without guide rails on the basin floor enabling quick, simple installation. It can be used in new or existing basins with flat, sloping or slanted floors. Even in continuous operation, the collector is virtually maintenance free due to all stainless steel construction, long-life wheels and bearings, and a simple cable-winch drive.

Built for simplicity, MRI’s Reel-to-Reel Drive* makes the Hoseless Cable-Vac the ultimate in dependability. The above-water drive combines take-up and pay-out cables on one shared reel saving space and allowing a compact drum with the cable wrapped in a single layer without tensioning. Designed for continuous operation, the robust and energy efficient AC drive with variable frequency control can withstand a stall without sustaining damage.

Conventional sludge collector

In conventional sludge systems (Figure A), the incoming flow enters at the bottom and collects upward, invariably creating a central vortex, which is rooting downwards. The vortex causes the fluid to collide at the center, disrupting the flow pattern and decreasing sludge removal.

MRI’s exclusive tandem collectors

With MRI’s tandem collection design (Figure B), the incoming flow enters tangentially to the bottom of both collectors, causing the incoming flow to travel in a spiral towards the center outlet. An incoming flow that enters such an assembly is re-directed before it is re-supplied at the incoming flow. This design is engineered, organized flow pattern that increases sludge removal and prevents clogging.

Rell-to-Reel Drive ensures reliable Power.
Adaptable control system enables sophisticated operation.

The operator-friendly control system automatically displays and manages all functions of the sludge collector. Through a programmable, menu-driven LCD touch screen, the system offers sophisticated SCADA and communications options and is powered by Rockwell International/Allen Bradley. Variables include duration, speed, and frequency of operation which can be triggered by sludge depth, time, or signals from SCADA.

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Innovative tandem collectors maximize efficiency.

The key to the Hoseless Cable-Vac’s ability to deliver increased solids removal is the innovative design of its tandem collectors.*

Unlike conventional equipment, MRI’s system has two collectors instead of one, with sludge collection orifices located on the side and facing forward, rather than pointing downward. This allows for enhanced, one-way directional sludge extraction as the assembly moves forward. On the reverse stroke suction ceases. The orifices direct the sludge into the collection pipe tangentially (see illustration above), organizing the flow to remove more solids with less water and prevent clogging.

Unlike other systems, MRI’s Hoseless Cable-Vac operates without guide rails on the basin floor enabling quick, simple installation. It can be used in new or existing basins with flat, sloping or slanted floors. Even in continuous operation, the collector is virtually maintenance free due to all stainless steel construction, long-life wheels and bearings, and a simple cable-winch drive.

Conventional Sludge Collector

With a conventional sludge collector (Figure A), the incoming flow enters at the bottom and continues spirally, perpendicular to the internal flow, which is rising linearly toward the center outlet. This causes the two flows to collide at the center, disrupting the flow pattern and decreasing sludge removal.

MRI’s Exclusive Tandem Collectors

With MRI’s tandem collector design (Figure B), the incoming flow enters tangentially to the bottom of both collectors, causing the incoming flow to turn as it travels toward the center outlet. As the incoming flow rises from each collector it is maintained by the incoming flow. The entire assembly, organized flow pattern that increases sludge removal and prevents clogging.

Built for simplicity, MRI’s Reel-to-Reel drive makes the Hoseless Cable-Vac the ultimate in dependability. The above-water drive combines take-up and pay-out cables on one shared reel saving space and allowing a compact drum with the cable wrapped in a single layer without tensioning. Designed for continuous operation, the robust and energy efficient AC drive with variable frequency control can withstand a stall without sustaining damage.

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MRI Hoseless Cable-Vac: low profile, floor-hugging and powerful.

MRI’s Hoseless Cable-Vac features a floor-hugging telescoping sludge removal pipe and a simple, powerful cable-winch movement. Durable enough for continuous operation, treatment plants generally run the Hoseless Cable-Vac from one to several times a day. Offering a highly scalable design, the MRI Hoseless Cable-Vac is available in flow rates from 15 gpm to 2,000 gpm.

MRI U/S Ultra-Scraper: double-acting blades increase effectiveness.

MRI’s U/S Ultra-Scraper’s unique design houses a series of scraper blades mounted on two racks. Each rack moves in opposition to the other creating a backward and forward action of approximately 2’. The reciprocating design greatly increases solids removal, delivering unsurpassed effectiveness.

Now there is a an efficient choice for maximum solids removal.

Unsurpassed MRI Hoseless Cable-Vac:

- Telescoping sludge pipe
- Floor-hugging, the sludge pipe extends the full length of the basin, eliminating the need for hoses
- Completely self-powering and easy to install

High-performance MRI U/S Ultra-Scraper:

- Double-acting blades
- Non-clogging, no bucket needed to collect solids
- Doubles effectiveness over single acting scrapers
- Does not require hosing to collect solids, less water necessary
- Offers remarkable solids removal efficiency with its reciprocal design

MRI SLUDGE COLLECTORS
MRI Hoseless Cable-Vac: low profile, floor-hugging and powerful.

MRI’s Hoseless Cable-Vac features a floor-hugging, telescoping sludge removal pipe and a simple, powerful cable-winch movement. Durable enough for continuous operation, treatment plants generally run the Hoseless Cable-Vac from one to several times a day. Offering a highly scalable design, the MRI Hoseless Cable-Vac is available in flow rates from 25 gpm to 2,000 gpm.

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Unsurpassed MRI Hoseless Cable-Vac:

- Telecoping Sludge Pipe
- Floor-hugging, the sludge pipe extends the full length of the basin, eliminating the need for hoses.
- Power Pivot transmits powerful 20,000 lb. force from hydraulic drive to scraper racks, enabling removal of dense sludge.*

MRI U/S Voice-Actuated Drive-Rack Base:

- Two-way action moves solids in one direction to outlet end and greatly increases effectiveness. Also available as single-acting.*
- Flow Balancing Ring designed for precision, the Flow Balancing Ring* assures even flow control front to back.

High-performance MRI U/S Ultra-Scraper:

- Double Thrust Linkage provides force to move scraper racks back and forth twice the sludge.*
- Double-acting blades increase effectiveness.
- Power Pivot transmits up to 20,000 lb. of force from hydraulic drive to scraper racks, enabling removal of dense sludge.*

MRI U/S Voice-Actuated Drive-Rack Base:

- Twin rack movement acts as dual collector(s) instead of one, significantly increasing solids removal.
- Unmatched performance, the twin rack design moves twice the sludge.*
MRI Hoseless Cable-Vac: low profile, floor-hugging and powerful.

MRI’s Hoseless Cable-Vac features a floor-hugging, telescoping sludge removal pipe and a simple, powerful cable-winch movement. Durable enough for continuous operation, treatment plants generally run the Hoseless Cable-Vac from one to several times a day. Offering a highly scalable design, the MRI Hoseless Cable-Vac is available in flow rates from 25 gpm to 2,000 gpm.

MRI U/S Ultra-Scraper: double-acting blades increase effectiveness.

MRI’s U/S ultra-Scraper’s unique design houses a series of scraper blades mounted on two racks. Each rack moves in opposition to the other creating a backward and forward action of approximately 2’. The reciprocating design greatly increases solids removal, delivering unsurpassed effectiveness. Now there is an efficient choice for maximum solids removal.
Engineered for integration, MRI’s Plate Settlers and Sludge Collectors provide unparalleled settling performance—from clarification to solids removal. MRI’s Plate Settlers allow increased water flow and settling area, greatly enhancing clarifier effectiveness and productivity, while MRI’s sludge collection products maximize solids removal.

Efficient and fast action removes the heaviest solids. Low-profile blades scrape up a thin layer of sludge with each cycle, maintaining efficient removal of thick, heavy sludge and fine grit and solids. This also means much higher traveling velocity than Chain & Flight and other high-profile devices. Generally, Chain & Flight move at about 1 fpm, compared to the MRI’s Ultra-Scraper’s speedy 10 fpm or more. The MRI’s Ultra-Scraper’s speed corresponds to a sludge removal rate of 300 gpm in a 25’ wide basin. Alternate blade sets hand sludge off to each other as they move back and forth. The sludge moves either to the end or center of the basin where it is extracted by a cross collector.

Installation of the MRI’s Ultra-Scraper is quick and simple. Substantially fabricated at the factory, the on-site contractor simply assembles the unit. No measuring, cutting, or welding is required. Efficient and fast action removes the heaviest solids.
for ultimate performance.

Engineered for integration, MRI’s Plate Settlers* and Sludge Collectors* provide classified settling and separation—from clarification to solids removal. MRI’s Plate Settlers allow increased water flow and settling area, greatly enhancing clarifier effectiveness and productivity, while MRI’s sludge collection products maximize solids removal.

Efficient and fast action removes the heaviest solids. Low profile blades scrape only a thin layer of sludge each cycle enabling efficient removal of thick, heavy sludge and even grit and settleable. The action is much higher traveling velocity than Chain & Flight and other higher profile devices. Generally, Chain & Flight move at about 1 fps; compared to the MRI Ultra-Scraper’s speed of 10 fps or more. The MRI Ultra-Scraper’s speed corresponds to a sludge removal rate of 300 gpm in a 25’ wide basin. Alternate blade sets hand sludge off to each other as they move back and forth. The sludge moves either to the end or center of the basin where it is extracted by a cross collector.

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n-site success: no field cutting or welding needed.

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Advantages of the MRI U/S Ultra-Scraper:

- The dual-action reciprocating linear gate eliminates the need for a traveling gate.
- No measuring, cutting, or welding of the on-site unit is required.
- No cutting or welding of the on-site unit is required.
- No site preparation is required as all components are factory fabricated.
- Simple, quick assembly reduces basin down time and takes only parts readily available from Colorado maker such as Rockwell International/Allen-Bradley, Baldor, Vicker, and more.
for ultimate performance.

Engineered for integration, MRI’s Plate Settlers® and Sludge Collectors® provide unparalleled settling performance—through clarification for solids removal. MRI’s Plate Settlers™ are designed with slim profile, low profile, and wide profile units to accommodate a wide range of basins. MRI’s Sludge Collectors® are slim profile and wide profile, allowing MRI’s custom collection products to maintain solids removal.

Installation of the MRI Ultra-Scraper® is quick and simple. Substantially fabricated at the factory, the on-site contractor simply assembles the unit. No measuring, cutting, or welding is required. Efficient and fast action removes the heaviest solids. Low profile blades scrape up a thin layer of sludge with each cycle, removing effluent of thick, heavy sludge and even grit and small solids. The Ultra-Scraper mimics a much higher traveling velocity than Chain & Flight and other higher profile devices. Generally, Chain & Flight moves at about 1 fpm, compared to the MRI Ultra-Scraper’s speedy 10 fpm or more. The MRI Ultra-Scraper’s speed corresponds to a sludge removal rate of 300 gpm in a 25’ wide basin.

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n-site success: no field cutting or welding needed.

The only double-acting, reciprocating linear scraper made in the United States is field-assembled with pre-cut, pre-made components that bolt together for ease of installation. No field cutting and field welding required (unlike other brands). Simple, quick assembly reduces basin downtime and parts readily available from Colorado Drive Components, hydraulic parts and controls from Top US makers such as Rockwell International, Baldor, Vickers, and more. All threaded linkage components extra heavy duty end-of-stroke sensors inside the cylinder casing permanently set to maintain adjustment. The scraper moves back and forth as the hydraulic drive cylinder extends and retracts. This strengthens the sludge to the end or center of the basin where it is extracted by a cross collector.
Experience, reliability, creativity and know-how. These are the qualities that have enabled Meurer Research to lead advancements in water and wastewater treatment solutions since 1978.

Now Meurer Research is pleased to offer a choice in superior sludge collection products—continuing the innovative and efficient designs in MRI’s more than 30-year history of advancements.

With over 50 patents and thousands of installations, from design, engineering and production to installation, education and after-market customer service, MRI has helped utility companies, municipalities and engineers find solutions to complex issues.

Trust MRI for trend-setting innovation.
Precise engineering. Proven technology.

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Other products available from Meurer Research are:

- Inclined Plate Settlers
- Hoseless Cable-Vac™ Sludge Collectors
- UFS Ultra-Scrap Sludge Collectors
- Paddle Wheel and Turbine Flocculators
- Membrane Pre-Treatment
- Package Plants
- Floating Plate Settlers
- Backwash and Residuals Reclaim
- Baffles
- Tube Settlers
- Pilot Plants
- Membrane Filters