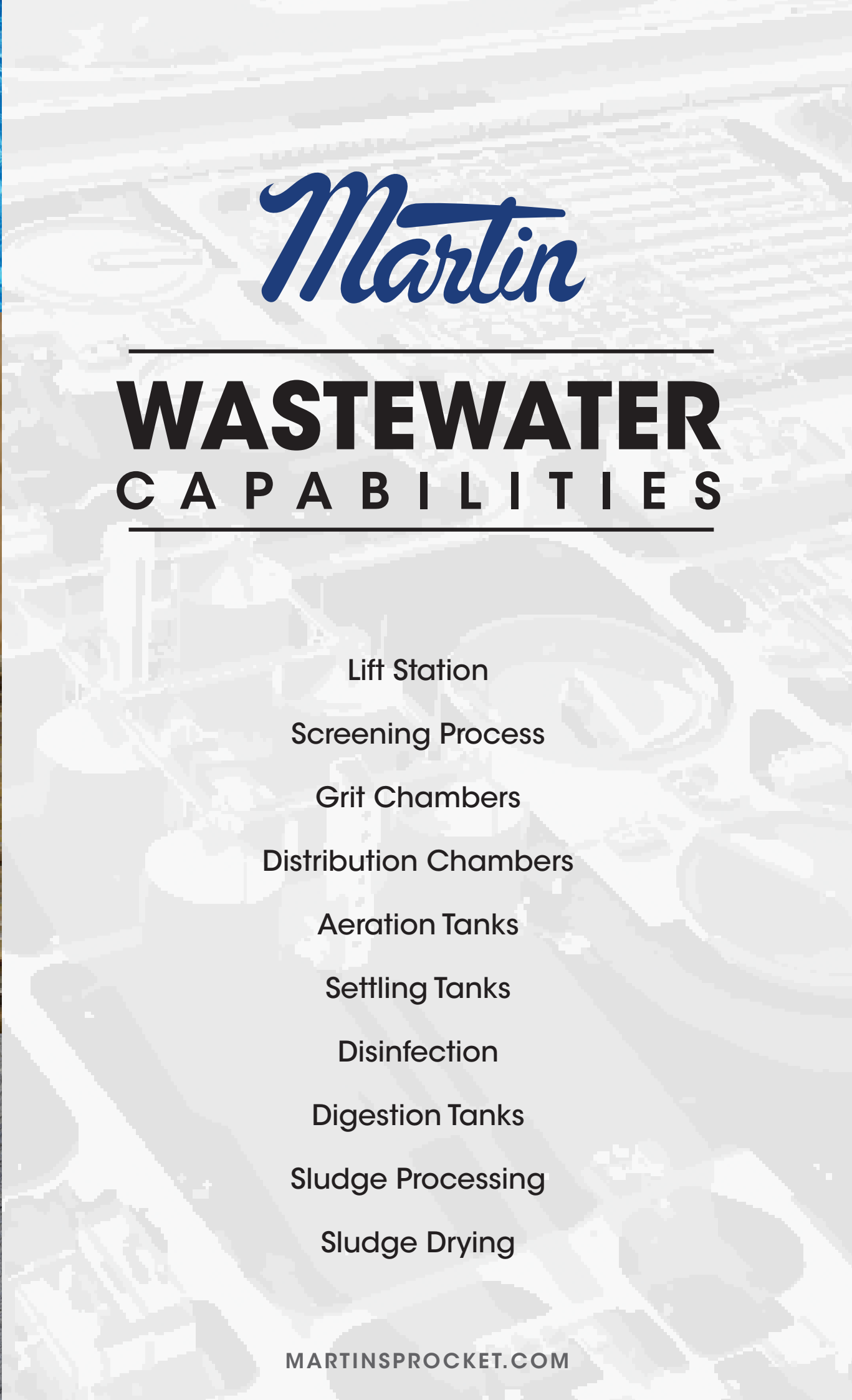
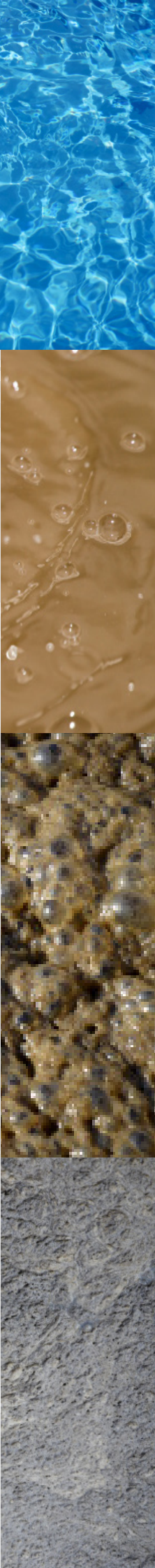




# *Martin*

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## **WASTEWATER** **C A P A B I L I T I E S**

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Lift Station

Screening Process

Grit Chambers

Distribution Chambers

Aeration Tanks

Settling Tanks

Disinfection

Digestion Tanks

Sludge Processing

Sludge Drying

MARTINSPROCKET.COM



### **Inventory**

We maintain large inventories to ensure superior service to all customers.

### **Customer Service**

When you call Martin a person answers your call every time.

### **Complete Manufacturer**

We manufacture what we sell, which means we control the quality, inventory levels, delivery and cost of our products.

### **Point-of-Sale Service**

We build our inventories, services and capabilities to meet the market demands of each area our manufacturing locations serve.

### **After-Hour Emergencies**

Each of our locations have people on-call for stock, altered, and made-to-order products, 24 hours a day, 7 days a week, 365 days a year.

### **Superior Field Support**

We have field professionals who understand our products, processes and services. They are available to help better match our offerings with your specific needs.



**Screening Process**



**Empty Settling Tank**



**Grit Chamber**



**Wastewater Plant**

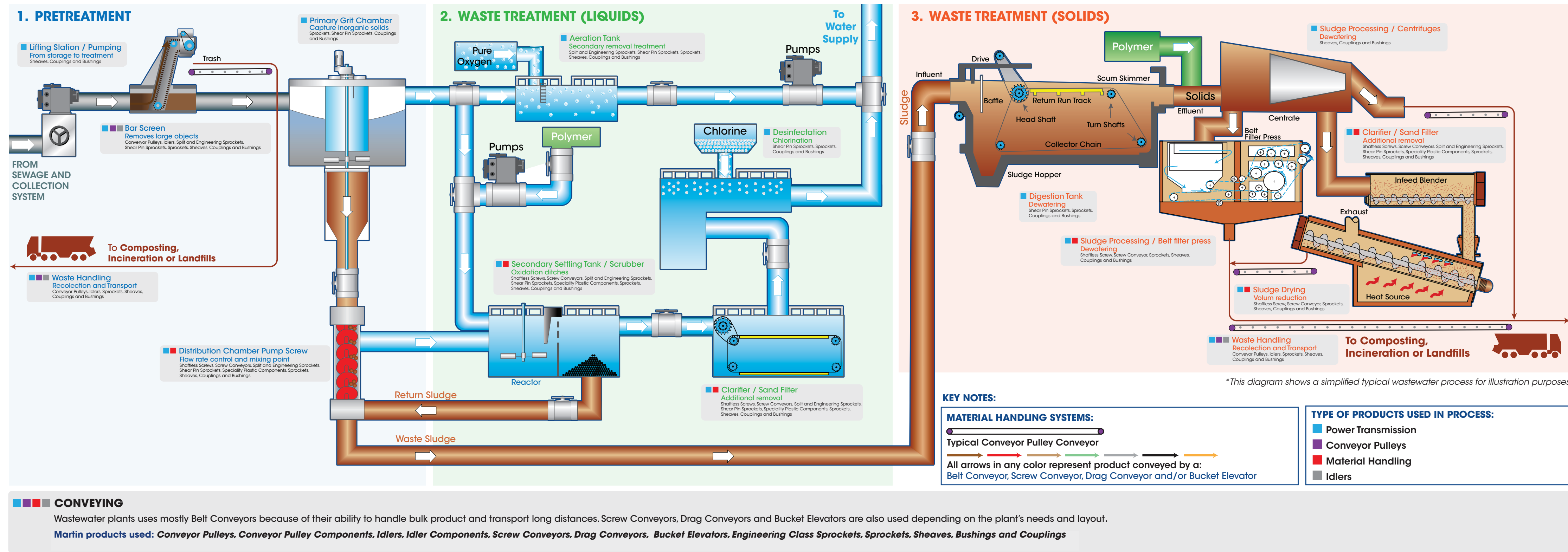
# PRODUCTS

[illegible]

# APPLICATIONS



# MARTIN WASTEWATER PLANT FLOW DIAGRAM



\*This diagram shows a simplified typical wastewater process for illustration purposes

## 1. PRETREATMENT

- Lift Station / Pumping:** The lift stations bring the raw sewage from underground gravity pipelines into the plant.  
**Martin products used:** *Sheaves, Bushings & Couplings*
- Bar Screen:** When wastewater first enters the treatment plant it passes through bar screens, belt screens or spiral screens which remove coarse materials such as rags, bottles, and twigs that could damage downstream operations and process equipment.  
**Martin products used:** *Split & Engineering Class Sprockets, Sprockets, Sheaves, Bushings & Couplings*
- Primary Grit Chamber:** The function of a grit chamber is to capture inorganic solids such as dirt and sand that cause wear to pumps and reduce space in process tanks. Lower scrapers along the floor of the basins are used to scrape the settled solids to the grit chamber while the skimmers along the top help slow the flow to a rate where the grit will have time to settle.  
**Martin products used:** *Shaftless Screws, Screw Conveyors, Shear Pin Sprockets, Sprockets, Bushings & Couplings*
- Distribution Chamber Pump Screw:** This return sludge structure provides sludge pumping, flow rate control to primary oxidation ditch process, and serves as mixing point for raw sewage and return sludge, i.e. return activated sludge.  
**Martin products used:** *Shaftless Screws, Screw Conveyors, Split & Engineering Class Sprockets, Shear Pin Sprockets, Sprockets, Sheaves, Bushings & Couplings*
- Waste Handling:** The removed solids are loaded onto the belt conveyor and moved to trucks for landfill disposal.  
**Martin products used:** *Conveyor Pulleys, Conveyor Pulley Components, Sprockets, Sheaves, Bushings & Couplings*

## 2. JUICE PURIFICATION

- Aeration Tank:** Secondary treatment takes place in the aeration tanks. Large tanks mix the partially treated wastewater with oxygen to support bacteria which devour organic waste. The bacteria levels are managed to provide the most efficient removal process.  
**Martin products used:** *Split & Engineering Class Sprockets, Sprockets, Sheaves, Bushings & Couplings*
- Secondary Settling Tank / Scrubber:** Oxidation Ditches: Provides mixing, oxygen transfer and retention time for microorganisms to convert organics to more stable compounds creating an activated sludge mixed liquid.  
**Martin products used:** *Shaftless Screws, Screw Conveyors, Split & Engineering Class Sprockets, Shear Pin Sprockets, Specialty Plastic Components, Sprockets, Sheaves, Bushings & Couplings*
- Clarifier / Sand Filter:** Clarifiers provide detention time for activated sludge to settle and be drawn off gradually and returned to be mixed with incoming raw sewage, known as Return Activated Sludge. The process also removes floatable materials by skimming. The effluent water from the clarifiers then goes to the sand filters for further treatment. The Sand Filters further aid in the removal of suspended particles, floating matter and BOD (Biochemical Oxygen Demand). BOD is a measurement of remaining organics that could cause pollution. The cleanest wastewater is drawn from the top of the aeration tanks through spillways. By this point the water is already quite clear. Polymers may be added to concentrate any remaining material. Once again, suspended particles settle to the bottom and are removed by scrapers or hopper.  
**Martin products used:** *Shaftless Screws, Screw Conveyors, Split & Engineering Class Sprockets, Shear Pin Sprockets, Specialty Plastic Components, Sprockets, Sheaves, Bushings & Couplings*
- Disinfection:** Chlorination may be used as a final treatment before the effluent is discharged to a water supply. Chlorine (or other disinfection process) is used to kill any pathogens still remaining in the treated water.  
**Martin products used:** *Shear Pin Sprockets, Sprockets, Bushings & Couplings*

## 3. EVAPORATION & CRYSTALLIZATION

- Digestion Tank:** Sludge is sent to the digestion tanks and digested substrate is dewatered.  
**Martin products used:** *Shear Pin Sprockets, Sprockets, Bushings & Couplings*
- Sludge Processing / Centrifuges:** Sludge is sent into centrifuges to remove any additional water before going through the sludge dryer.  
**Martin products used:** *Sheaves, Bushings & Couplings*
- Sludge Processing / Belt Filter Press:** Another process for dewatering used in wastewater plants are the Belt Filter Press which filter by means of a belts that goes through a series of rollers and squished the water out of the sludge.  
**Martin products used:** *Shaftless Screw, Screw Conveyor, Sprockets, Sheaves, Couplings & Bushings*
- Sludge Drying:** Many facilities include drying stations where an incinerator is operated by screws, drag conveyors, or belt filter presses. The remaining processed sludge is dried and transported to storage facilities where it can be converted to fertilizer. Drying results in a 4 to 1 reduction in sludge volume.  
**Martin products used:** *Shaftless Screws, Screw Conveyors, Sprockets, Sheaves, Bushings & Couplings*
- Waste Handling:** The removed solids are loaded onto the belt conveyor and moved to trucks for landfill disposal.  
**Martin products used:** *Conveyor Pulleys, Conveyor Pulley Components, Sprockets, Sheaves, Bushings & Couplings*

# Martin Products at Work in the Wastewater Industry



Roller Chain Sprockets



Engineering Class  
Sprockets



Split Sprockets



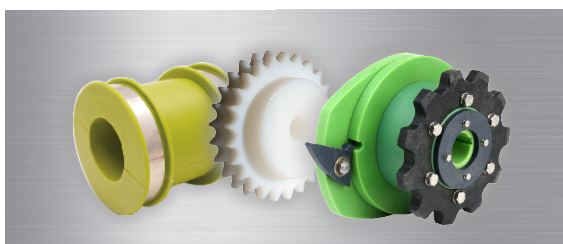
Sprockets



Bushings



Sheaves



Specialty Plastic Components



Couplings



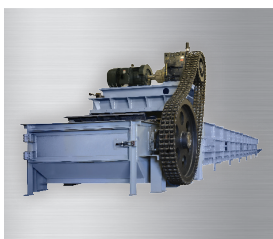
Bucket Elevators



Screw Conveyors



Shaftless Screw Conveyors



Drag Conveyors



Conveyor Pulleys



Idlers



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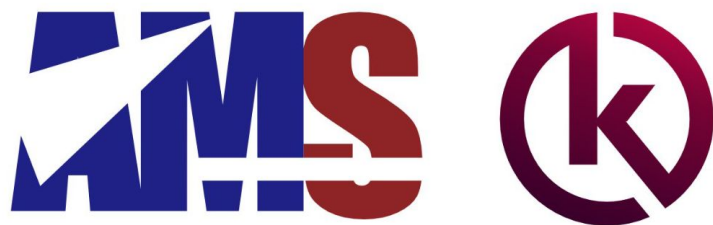
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