PROMIX H – HYDRAULIC POLYMER MIXING SYSTEM

March 2025

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Product Overview

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PRODUCT OVERVIEW

- A polymer blending system designed for municipal and industrial wastewater treatment.
- Utilizes a hydraulic mixing method with an eductor, creating a Venturi effect for optimal polymer activation without moving parts.
- Available with a DULCOFLEX DFXa or gamma /XL pump.
- The system supports manual, analog, contact, and auxiliary modes, with 4-20 mA and alarm outputs.
  - Bluetooth® capabilities when configured with gamma/ XL pump.
- Built for low molecular weight polymers, it handles flow rates from 60–600 GPH (227-2,271 LPH) at up to 100 PSIG (7 BAR).
- Provides consistent, high-performance polymer solutions while reducing operational complexity.

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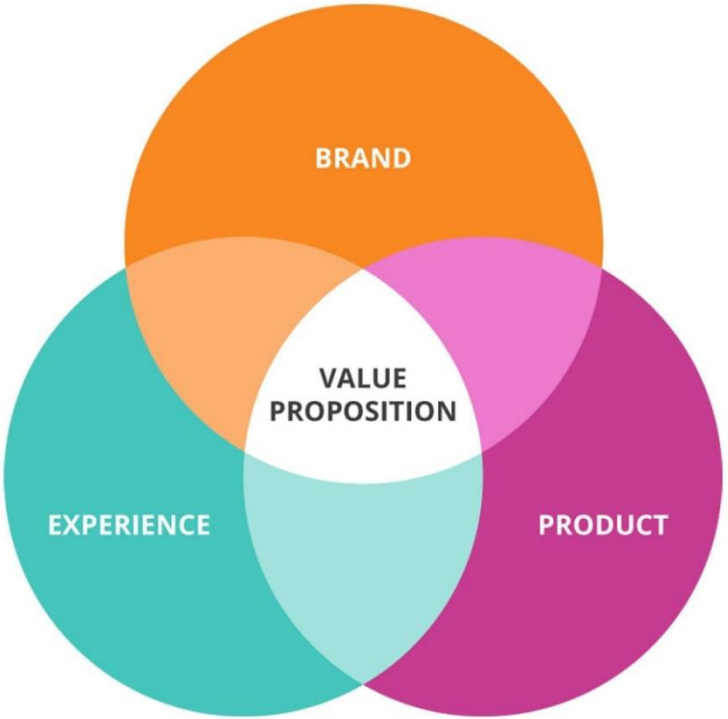
Value Creation



THE OFFERING'S VALUE

Positioning:

For small industrial and municipal wastewater treatment plants who currently use manual or outdated methods to mix polymer solutions, the ProMix H provides a low cost, low maintenance and simple operation solution with a proven durable ProMinent pump that is easy to integrate into existing systems with an almost immediate realization on cost savings.

Feature	Benefit	Why (the Customer Cares)
Hydraulic mixing with Eductor	Ensures optimal and efficient polymer activation	Lower polymer usage costs
Static Mixer	Ensures even polymer distribution	Improves treatment efficiency
Minimal components and no moving parts	Less chance for downtime	Low maintenance costs/time and low total cost of ownership
Compact and lightweight	Easy to install in tight places	Flexible placement in existing setups
ProMinent DFXa or gamma/ XL pump	Durable pump for precise and consistent dosing	Cost savings due to reduced downtime and chemical waste

Target Market

TARGET AUDIENCE

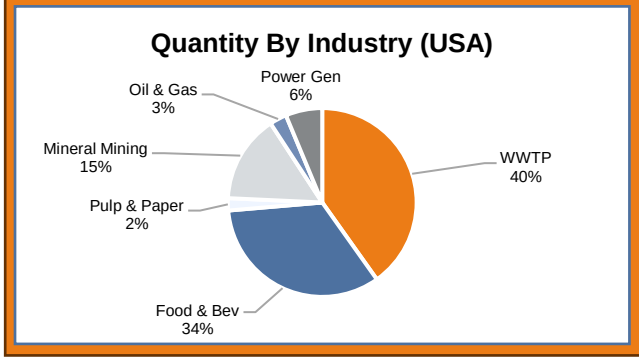
Industry	Title	Motivations	Frustrations	Content Sources
Most Industries	Maintenance Manager	• Improving safety • Cost effectiveness / ROI • Budget constraints • Compatibility with existing systems • Durability and ease of maintenance	• Equipment downtime • Unplanned maintenance • Lack of data • Resource and safety concerns • Work-Life balance	• Suppliers and vendors • Online resources (Google) • Trade publications • Tradeshows and exhibitions • Professional networks
Most Industries	Reliability Engineer	• Reliability and quality • Cost effectiveness / ROI • Product performance • Risk mitigation • Data and analysis	• Lack of data • Inadequate tools • Complex systems • Resistance to change • Short-term focus	• Manufacturers and suppliers • Online resources (Google) • Consultation with SMEs • Publications • Networking and referrals
Most Industries	Purchasing Manager	• Cost effectiveness / ROI / TCO • Quality • Compliance and regulations • Vendor or brand reputation • User feedback and reviews	• Supplier performance issue • Price volatility • Budget constraints • Inventory management • Sourcing disruptions	• Suppliers and vendors • Trade shows and exhibitions • Industry publications • Online resources (Google) • Networking and referrals
Chemical Vendors	Sales Representative	• Improve efficiencies • Profitability • Competitive advantage • Long-term viability • Sales and Marketing support	• Unattainable sales targets • Inadequate leads • Intense competition • Lack of training or support • Customer complaints	• Manufacturers and suppliers • Online resources (Google) • Competitor analysis • Trade shows and exhibitions • Customer visits
What industry(ies) or market(s) is this offering best suited for.?	What is the title (or role) of the person who has the most influence over making the decision on this offering?	What are the motivations or triggers for buying this offering? What would make them look like a rock star?	What are their pain points? What problems do they have with existing products?	Where do they go to learn about this type of offering? What channels do they use?

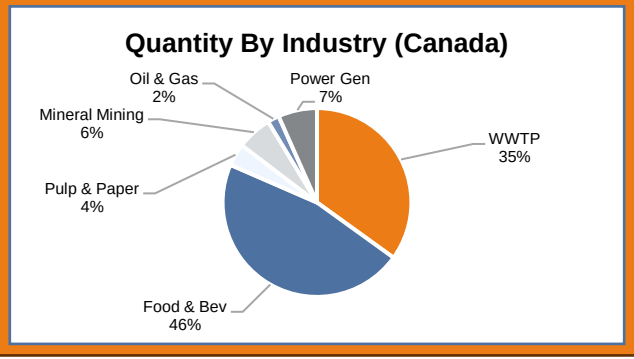
TARGET MARKET – OPPORTUNITY

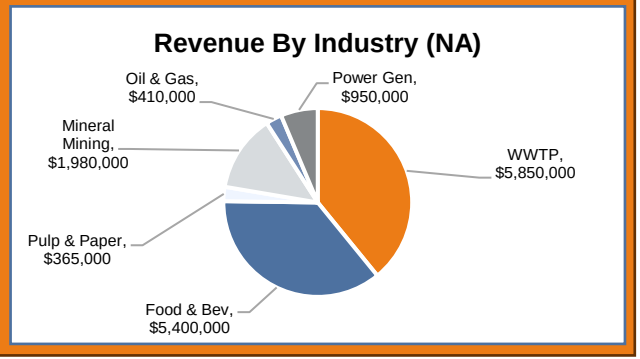
North American Market Opportunity (USA / Canada)

Industry	Approximate Total # of Plants	Approx. # Using Polymer Systems	Assume 20% Annual Replacement/Expansion	Potential Demand ($) Assume $5,000/unit
Municipal Wastewater (WWTP)	16,000 / 3,500	4,800 / 1,050 (30%)	960 / 210	$5,850,000
Food & Bev Processing	40,000 / 13,900	4,000 / 1,390 (10%)	800 / 280	$5,400,000
Pulp & Paper	350 / 150	260 / 150 (75%)	50 / 23	$365,000
Mining & Minerals	12,000 / 1,200	1,800 / 180 (15%)	360 / 36	$1,980,000
Oil & Gas	600 / 100	360 / 60 (60%)	70 / 12	$410,000
Power Generation	1,900 / 500	760 / 200 (40%)	150 / 40	$950,000

Opportunity Breakdown



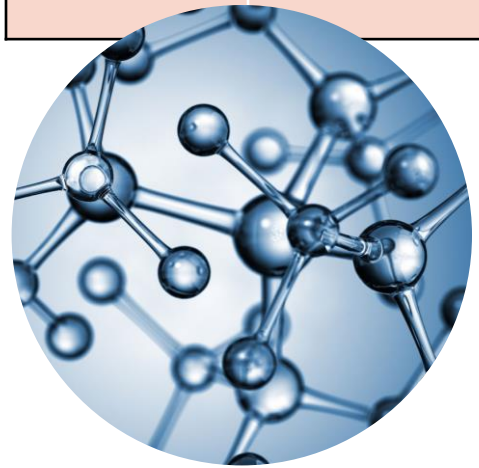




Applications

ABOUT LOW MOLECULAR WEIGHT (LMW) POLYMERS

	Size Range	Characteristics	Best Suited for…
Low Molecular Weight Polymer	1 to 3 Million Daltons	• Less viscous • Shorter polymer chains • Small floc size • Faster reaction kinetics • Less shear sensitive	• Applications requiring rapid dispersion, charge neutralization and low viscosity handling • Dissolved Air Floatation (DAF) • Membrane filtration systems • Clarification processes • Clarification of low turbidity water • Industrial effluents with fine particles



Advantages	Limitations
Rapid reaction and dispersion in water	Less effective in sludge thickening compared to high molecular weight polymers
Effective in treating fine suspensions and colloidal matter	Requires higher dosages in some applications compared to medium/high molecular weight alternatives
Lower viscosity allows for easier pumping and dosing	Not suitable for large floc formation needed in sedimentation-heavy applications
Ideal for applications requiring fast floc formation and charge neutralization	

APPLICATIONS FOR LMW POLYMERS

Coagulation and Charge Neutralization

- **Best for:** Treating wastewater with fine suspended particles or colloidal matter that needs destabilization.
- **Common Industries:**
  - **Municipal drinking water treatment** – LMW cationic polymers (e.g., PolyDADMAC, polyamines) are used for turbidity reduction.
  - **Textile and dye wastewater treatment** – Removing color and small particulates.
  - **Chemical manufacturing wastewater** – Neutralizing negatively charged colloidal particles.

Dissolved Air Flotation (DAF) Enhancement

- **Best for:** Separating oils, grease, and suspended solids in industrial wastewater.
- **Common Industries:**
  - **Food and beverage processing** – Removes fats, oils, and grease (FOG) from wastewater before discharge.
  - **Oil & gas refineries** – Separation of hydrocarbons and suspended solids.
  - **Dairy industry** – Removal of proteins and fats.

Heavy Metal Precipitation & Removal

- **Best for:** Binding to dissolved heavy metals for easier precipitation and removal.
- **Common Industries:**
  - **Electroplating & metal finishing** – Reduces copper, zinc, and lead levels.
  - **Mining wastewater treatment** – Removal of iron, chromium, and other dissolved metals.
  - **Battery recycling plants** – Separation of lithium, cadmium, and nickel ions.

pH-Dependent Wastewater Treatment

- **Best for:** Applications where polymer performance is sensitive to pH changes.
- **Common Industries:**
  - **Pharmaceutical wastewater treatment** – Adjusts for variable pH conditions in effluent streams.
  - **Tannery wastewater treatment** – Coagulating acidic and alkaline waste streams.

Primary Clarification & Sedimentation

- **Best for:** Rapid sedimentation of fine solids in primary treatment stages.
- **Common Industries:**
  - **Municipal wastewater treatment plants** – Enhances primary settling tank efficiency.
  - **Pulp and paper mills** – Removal of fine fibers and suspended particles.

Sludge Conditioning for Dewatering

- **Best for:** Reducing sludge viscosity and improving water release before dewatering.
- **Common Industries:**
  - **Municipal and industrial wastewater plants** – Used in belt presses, centrifuges, and screw presses.
  - **Chemical processing plants** – Sludge drying before disposal.

Choosing the Right System

BASIC SELECTION CRITERIA

	ProMix H	ProMix S	ProMix M	ProMix L	PolyRex	ULFa	ULFb	ULPa	ULDa
Polymer Form	Liquid	Liquid	Liquid	Liquid	Liquid / Powder	Liquid / Powder	Liquid / Powder	Liquid / Powder	Liquid / Powder
Polymer Type	Emulsion* Solution* Dispersion*	Emulsion Mannich Dispersion	Emulsion Mannich Dispersion	Emulsion Mannich Dispersion	Any	Any	Any	Any	Any
Operation Style	Continuous (no start/stop)	Continuous	Continuous	Continuous	Batch	Continuous	Continuous	Batch	Batch
Maximum Flow Rate	600 GPH (2,271 l/h)	600 GPH (2,271 l/h)	1,500 GPH (5,678 l/h)	6,000 GPH (22,712 l/h)	2,166 GPH (8,200 l/h)**	2,113 GPH (8,000 l/h)	2,113 GPH (8,000 l/h)***	1,057 GPH (4,000 l/h)	528 GPH (2,000 l/h)

*Note: Low molecular weight only (1-3 Million Daltons)
**Note: Value is for powder polymers. Flow rate when using liquid polymers: 1,083 GPH (4,100 l/h)
***Note: Flow rate of up to 2,641 GPH (10,000 l/h) available in 2026

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APPLICATIONS BY SYSTEM TYPE

Polymer System	Best for	Common Applications	Key Advantages
Dry Polymer Feed Systems	High-volume, cost-effective treatment	Sludge dewatering, industrial solids removal, mining	Low-cost bulk storage, effective in large-scale operations
Liquid Polymer Feed Systems	Fast-acting, easier to handle	Municipal drinking water, DAF systems, industrial effluent	No aging required, easy metering
Emulsion Polymer Feed Systems	Sludge dewatering, industrial water treatment	Sludge thickening, stormwater treatment, heavy metal removal	Fast hydration, better sludge conditioning
Advanced/Automated Polymer Systems	High-precision, real-time control	Automated municipal plants, varying industrial wastewater	Optimized dosing, sensor-driven efficiency

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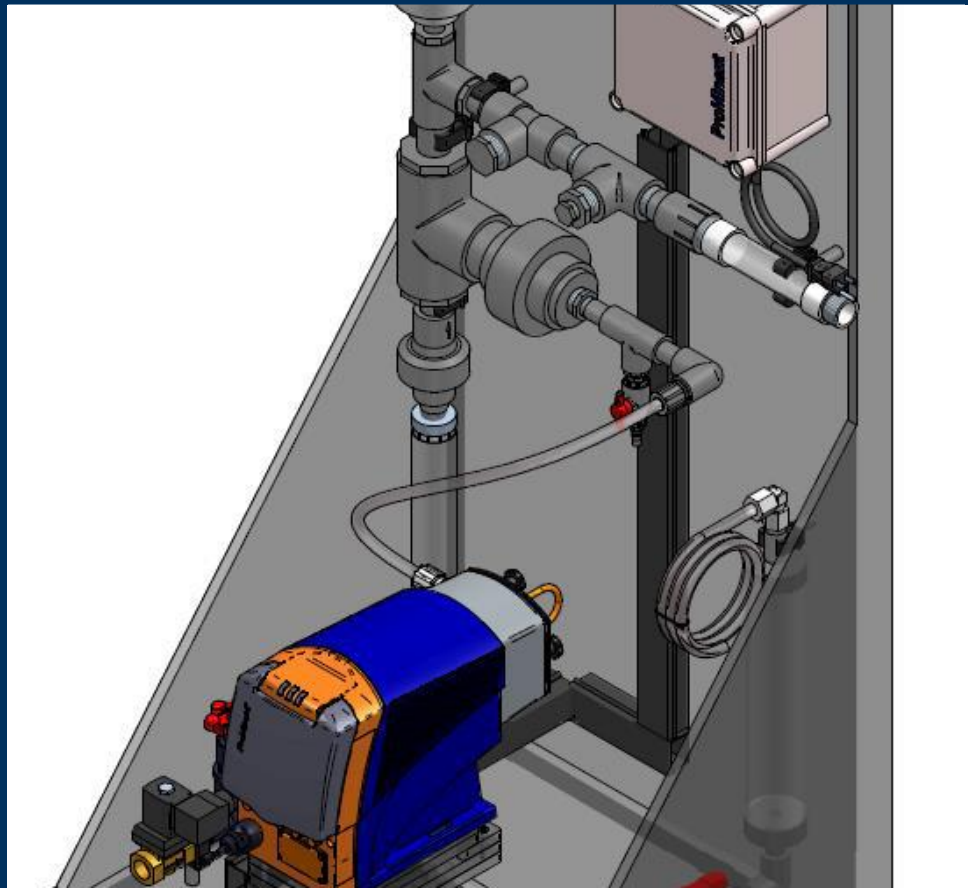
Technical Specifications



PROMIX H TECHNICAL SPECIFICATIONS

	With DULCOFLEX DFXa Peristaltic Pump	With gamma/ XL Solenoid-Driven Diaphragm Pump
Part Number	1140534	1141954
Polymer Types	Emulsion or Solution, Low Molecular Weight	Emulsion or Solution, Low Molecular Weight
Discharge Flow Rates	60 – 600 GPH (227 – 2,271 l/h)	60 – 600 GPH (227 – 2,271 l/h)
Polymer Loading Rate	0.003 – 7.93 GPH (0.01 – 30 l/h)	0.001 – 4.76 GPH (0.004 – 18 l/h)
Maximum Dilution	1% @ 10 GPM (38 l/h)	1% @ 7.5 GPM (28 l/h)
Ambient Temperatures	14°F - 120°F (-10°C - 49°C)	14°F - 120°F (-10°C - 49°C)
Ambient Humidity	≤ 92% relative humidity, non-condensing	≤ 92% relative humidity, non-condensing
Maximum Operating Pressure	65 PSI (4.5 BAR)	100 PSI (6.9 BAR)
Neat Polymer Pump	DFXa	gamma/ XL
Viscosity Range	3,000 cPs for Neat Polymer	3,000 cPs for Neat Polymer
Discharge Polymer Solution	0 – 1% for Emulsion Polymer	0 – 1% for Emulsion Polymer
Operating Temperatures	+50°F to 100°F (10°C to 38°C)	+50°F to 100°F (10°C to 38°C)
Overall Skid Dimensions	24”L x 24”W x 48”H (610mm x 610mm x 1,219mm)	24”L x 24”W x 48”H (610mm x 610mm x 1,219mm)
Overall Skid Weight	Approximately 75 lbs. (34 kg)	Approximately 75 lbs. (34 kg)
Water Inlet Connection	1/2” Brass NPT Solenoid Valve	1/2” Brass NPT Solenoid Valve
Polymer Inlet Connection	1/2” PVC/ Viton NPT Ball Valve	1/2” PVC/ Viton NPT Ball Valve
Discharge Connection Size	1” MNPT PVC	1” MNPT PVC
Drain Connection	¼” FNPT	¼” FNPT
Power Supply	120 VAC, 1 Phase, 60Hz	120 VAC, 1 Phase, 60Hz
Controls Data		
Control Type	Terminal Box for Electrical Connections	Terminal Box for Electrical Connections
Additional Data		
Certifications	UL components	UL components

Production & Ordering

PRODUCTION & ORDERING

Topic	Specifics	Notes / Comments
Part Number(s)	1140534 (with DFXa) 1141954 (with gamma/ XL)	
Production Location(s)	Pittsburgh, USA	
List Price	$8,300 USD (with DFXa) $8,300 USD (with gamma/ XL – high pressure)	Canada Pricing to Follow
Approximate Lead Time	4-6 weeks	
Available Options	diaLog X for additional control capabilities	
Ordering Information	eQuote	
Availability	Immediately	

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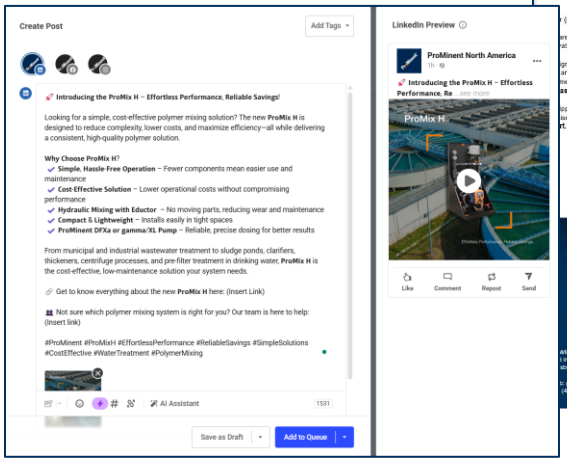
Support

MARKETING MATERIAL

- Website
- Technical Data Sheet
- How-To Videos
- Internal Training Presentation
- LinkedIn Post
- Email



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