

pH Adjustment System

Automated pH Neutralization

Controlled Chemistry. Predictable Operating Costs.

PRAB pH Adjustment Systems are engineered for two equally important outcomes: meeting discharge requirements and returning treated water to your manufacturing process. By delivering consistent, verifiable pH control, these systems help facilities reduce freshwater consumption, cut fluid disposal costs, and maintain full compliance with local regulations.

For operations and finance teams, that means a closed-loop water management strategy — treating process and end-of-life fluids for reuse rather than disposal. For EHS, it means documented, verified discharge every time.

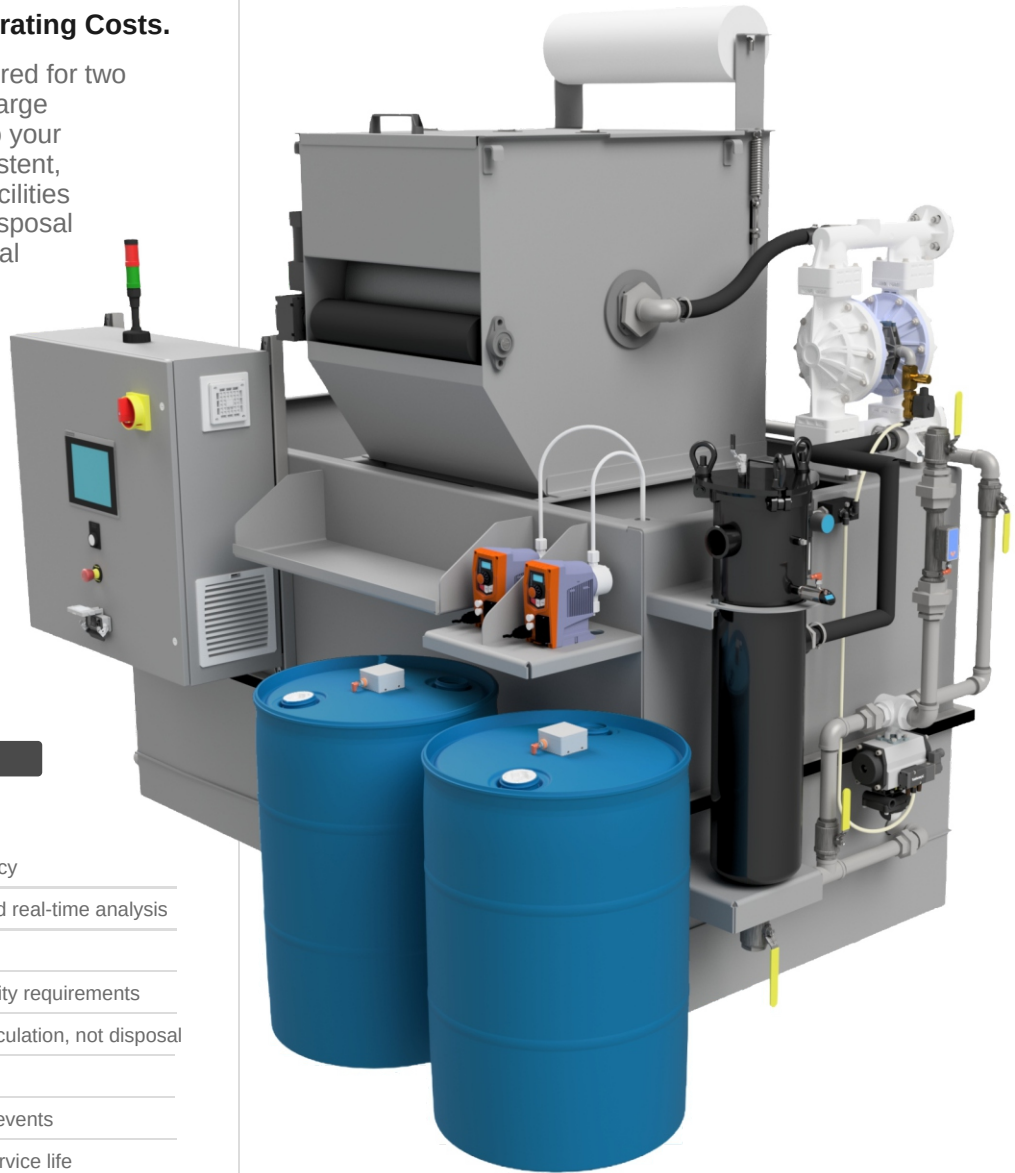
For EHS teams, this means greater confidence that discharge meets municipal requirements. For operations, it enables reliable process water management by treating wastewater for reuse in the manufacturing process.

OPERATIONS / PLANT MGMT

FINANCE / CFO

EHS & SUSTAINABILITY

- Predictable effluent quality — batch to batch consistency
- Accurate chemical dosing through complete mixing and real-time analysis
- Fully automated operation with minimal labor
- Adjustable pH ranges to accommodate local municipality requirements
- Closed-loop water reuse; treats process fluids for recirculation, not disposal
- Reduces freshwater consumption
- Reduced compliance risk with documented discharge events
- Industrial-grade stainless steel construction for long service life
- **Safety & Risk Reduction — no direct handling of hazardous chemicals**
- **Supports water reuse, sustainability goals, and green initiatives**



Engineered for Compliance, Water Reuse, and Sustainability

4 Models

PH 400 TO PH 2000
8,000 TO 39,000 GPD

50µm

AUTOMATIC CONTINUOUS-BAND
FILTRATION PROTECTS SYSTEMS

24/7

TECHNICAL SUPPORT
PERFORMANTEE® GUARANTEED

How the System Works & Key Engineering Advantages

PRAB Automated pH Adjustment Systems

PRAB pH Adjustment Systems treat acidic or alkaline water streams for two outcomes: compliant discharge and direct return to your manufacturing process. Unlike continuous-flow systems that rely on aggressive dosing, PRAB's batch design delivers uniform, fully verified water quality — so treated water is ready for drain or recirculation every cycle.

PROCESS SEQUENCE — EACH CYCLE

01

Pre-Filtration

- Mesh screen removes large solids
- Automatic indexing drum filter (50-micron) captures fines
- Protects pumps, probes, and downstream components

02

Controlled Batch Neutralization

- Wastewater fills stainless steel reaction tank
- Automated dosing of acid or caustic chemistry
- Continuous pH monitoring ensures precise batch control

03

Verification, Discharge or Reuse

- Effluent confirmed within targeted pH range
- Neutralized batch routed to drain or returned to the manufacturing process
- Process data logged for compliance documentation every cycle

KEY ENGINEERING ADVANTAGES

Two-Stage Pre-Filtration

Mesh screen and automatic continuous-band filtering protects sensors and pumps, reduces maintenance frequency, and extends equipment life.

Stainless Steel Construction

Industrial-grade tank with optional coatings for expanded chemical compatibility and long service life in harsh environments.

Skid-Mounted & Factory Tested

Pre-assembled for faster installation with reduced field wiring and commissioning time.

Precision Chemical Dosing

Automated acid and caustic monitoring with controlled injection based on live pH feedback prevents overfeeding and minimizes chemical spend.

Fully Automated Operation

Automatic fluid transfer and batch discharge based on tank level and verified pH. Minimal operator intervention.

Compliance Documentation

Automated data logging of pH, volume, and time/date per batch. Email reporting and fault notifications included.

THE SYSTEM



FRONT - CHEMICAL DOSING AND HMI

WHY BATCH PROCESSING MATTERS

Full RXN

COMPLETE REACTION TIME
BEFORE EVERY DISCHARGE

Documented

EVERY DISCHARGE EVENT
LOGGED & VERIFIED

Greener

LESS CHEMICAL WASTE &
WATER REUSE READY

PROCESS WATER REUSE & CLOSED-LOOP REUSE

PRAB systems are configurable for closed-loop water management — treating end-of-life fluids, wash water, and process fluids for direct recirculation. The result is less freshwater draw, lower disposal costs, and a measurable reduction in your facility's water footprint.

Automation, Data Logging & Ideal Applications

PRAB Automated pH Adjustment Systems

Each PRAB pH Adjustment System includes automated controls engineered for two goals: protecting your facility from regulatory risk and enabling treated water to re-enter your manufacturing process. Every batch is fully verified before discharge or reuse — providing defensible documentation for plant and finance leadership while supporting active water conservation and sustainability programs.

STANDARD AUTOMATION FEATURES

Continuous Monitoring Real-time pH monitoring and control throughout each batch cycle.	Discharge Verification Automatic discharge or reuse routing only after effluent is confirmed within target pH range.	Chemical Level Monitoring Automated acid and caustic supply monitoring with low-level alerts.
Data Logging pH, total volume discharged, and time/date stamp recorded for every batch event.	Email Reporting Automated compliance reports at defined intervals — no manual collection required.	Fault Notifications Filtration media alerts, fault warnings, and system status notifications keep operators informed.

WHO BENEFITS & HOW

Operations & Plant Management Fully automated pH control reduces operator intervention and unplanned downtime. Batch processing delivers consistent, repeatable results shift after shift. Treated water routed back to process eliminates manual fluid handling and reduces disposal scheduling.	Finance & Ownership Precision dosing reduces chemical spend vs. continuous-flow systems. Closed-loop reuse cuts freshwater and disposal costs with a clear, measurable ROI. Automated compliance documentation reduces regulatory exposure and audit risk. Predictable operating costs with reduced lifecycle cost.	EHS & Sustainability Verified, documented discharge events ensure sewer and municipal compliance. No direct operator handling of hazardous chemicals. Supports water reuse programs, green initiatives, and community sustainability commitments — a genuine environmental differentiator.
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TYPICAL APPLICATIONS

Metal Finishing & Plating Acid bath and rinse water neutralization aid discharge compliance.	Metalworking & Machining Spent coolant and washwater treatment for reuse or compliant discharge	Semiconductor & Electronics Precision neutralization of etch-bath and rinse effluents before discharge.	Industrial Water Reuse Boiler Blowdown, Coolant Tower Water neutralization before discharge or return to process.
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SYSTEM VIEWS



ON-SITE INSTALLATION EXAMPLES



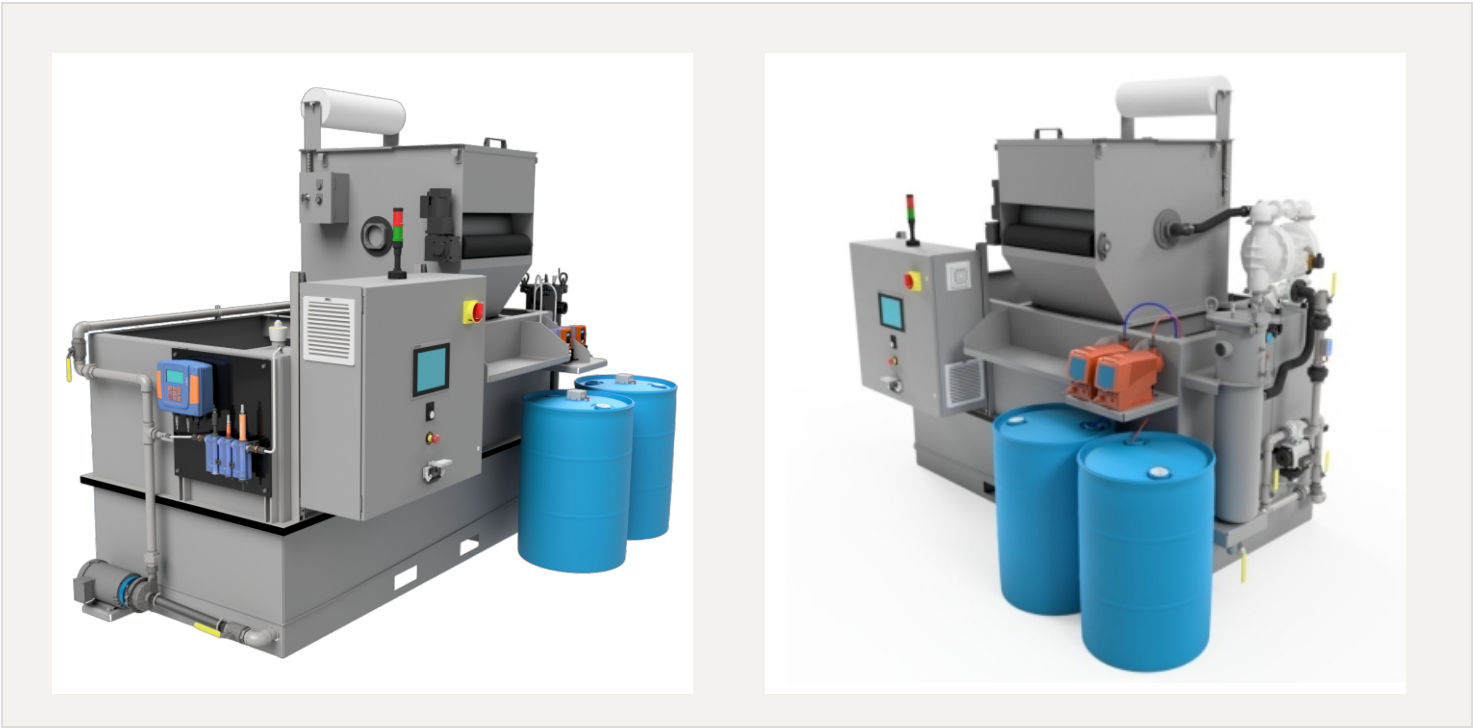
Standard Models, Configurations & Support Services

STANDARD MODELS — SYSTEM SELECTION GUIDE | RAPID FILL AND RAPID DISCHARGE

Model	24 hr. Daily Flow (Gal)	Max Fill Rate (GPM)	Tank Capacity (Gallons)	Dimensions (L x W x H)
pH 400	8,000	95	400	90 in. x 73 in. x 99 in
pH 800	15,000	132	800	120 in. X 68 in. X 99 in.
pH 1200	23,000	132	1,200	169 in. x 78 in. x 135 in.
pH 2000	39,000	264	2,000	174 in. x 92 in. x 158 in.

Custom chemistries are available based on application requirements.

SYSTEM STANDARD FEATURES AND SPECIFICATIONS			
Wastewater Chemistry	Acidic or Alkaline	Tank Material	Stainless Steel
Daily Throughput	Up to 39,000 GPD standard	Filtration Stage 1	Mesh screen — large solids
Discharge Limits	POTW-compliant target pH	Filtration Stage 2	50-micron automatic drum
Footprint	Skid-mounted, compact design	Chemistry Dosing	Dual — Acid & Caustic
Automation	Full data logging - Built-in IIoT	Controls	PLC + Touchscreen HMI



SUPPORT & PERFORMANCE ASSURANCE — PRAB PERFORMANTEE®

— System Selection PRAB engineers match system capacity, chemistry, and automation to your specific discharge and reuse requirements.	— Process Fluids Evaluation Lab-based evaluation of your wastewater and process fluid chemistry to confirm optimal configuration before purchase.
— Startup & Commissioning Factory-tested and field-commissioned by PRAB technical staff to ensure the system performs to specification from day one.	— 24/7 Technical Support Round-the-clock support by phone. You are implementing an engineered compliance and reuse system — we are with you for the long term.