

Ion Exchange

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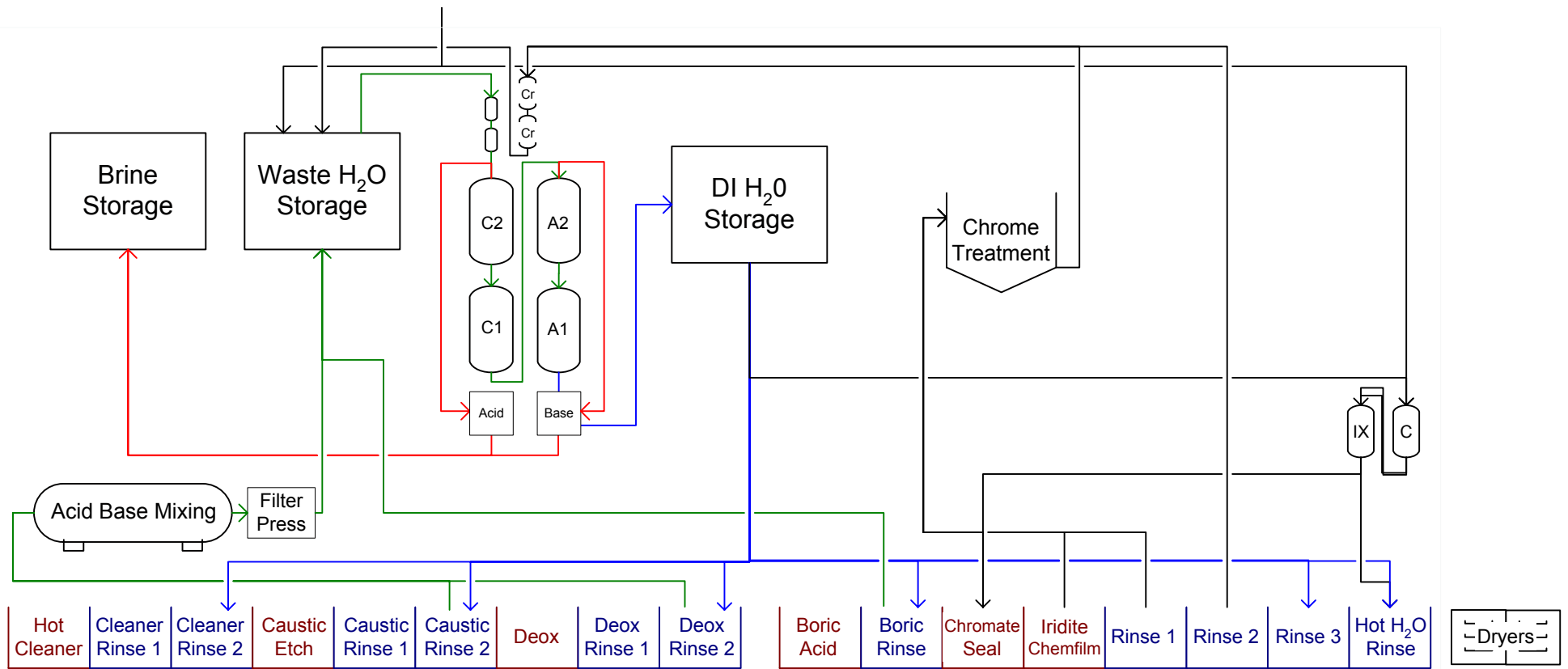
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Equipment

Process Bath

Rinse Bath

Pipelines

Clean Water

Dirty Water

Regenerant

Chrome

City Water



- Opened January 1998
- Managed by Hytek Finishes, Kent, WA
- Supports Boeing Co.
- Aluminum Processes:
 - Boric-Sulfuric Anodize
 - Chromate Conversion
 - Penetrant Inspection
 - Painting

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Introduction



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Essentials for Success



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Dragout Reduction: Racking



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Dragout Reduction: Hang Time



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Dragout Reduction: Spray Rinsing



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Bath Testing



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Bath Maintenance



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Process Bath Treatment / Disposal

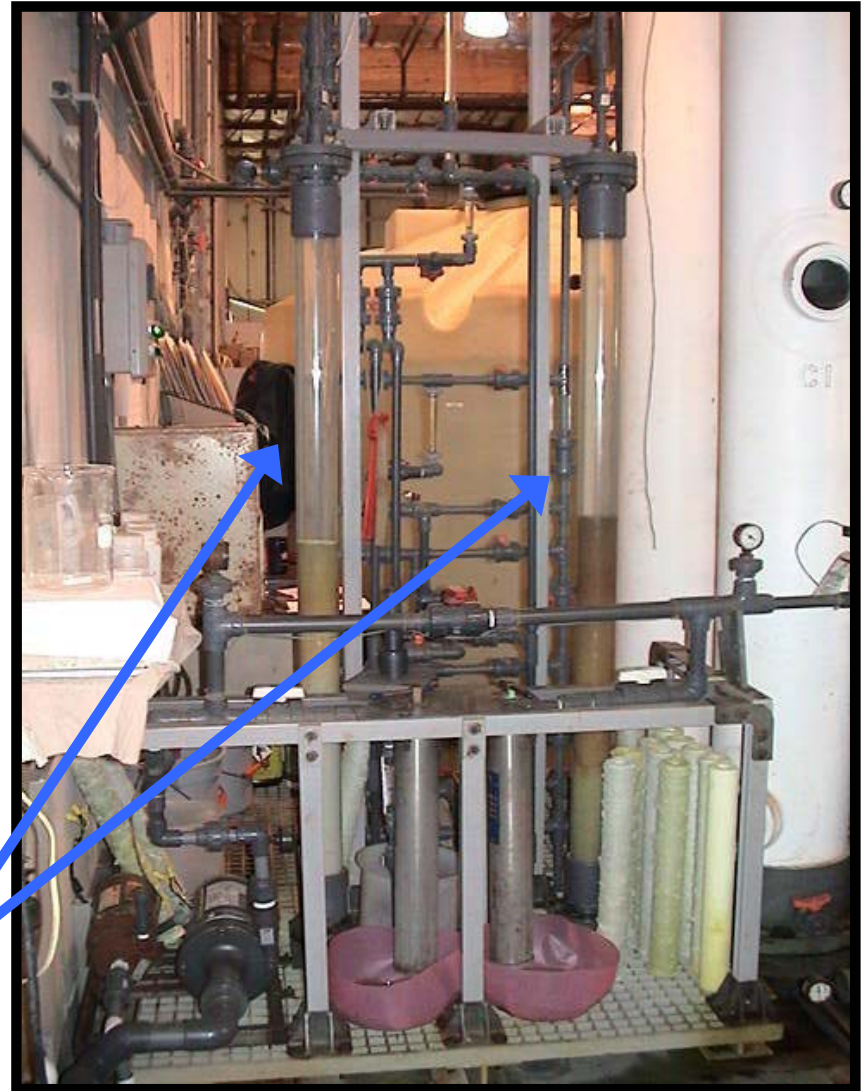
- Concentrated solutions
- Treated on-site or shipped off-site

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Chrome Water



Chromium Specific
Ion Exchange Columns



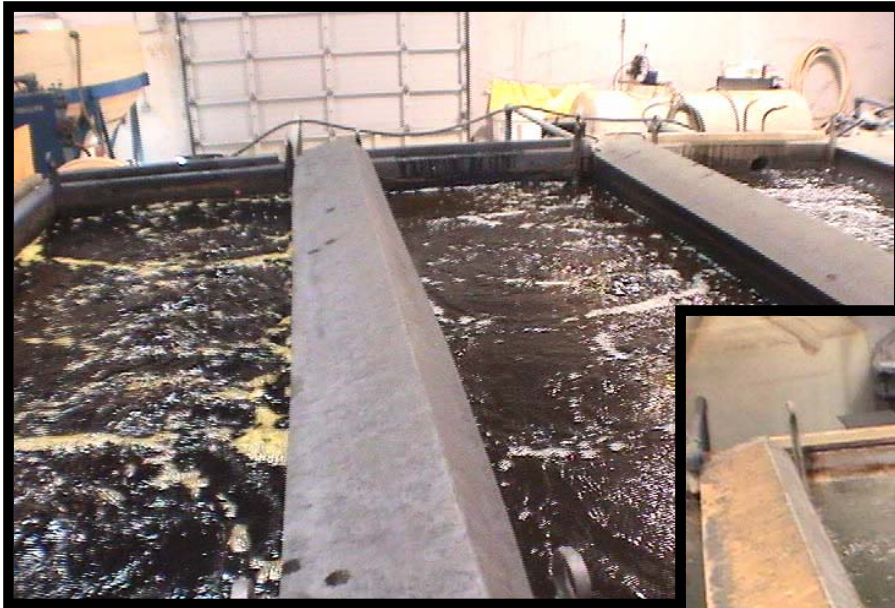
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Ion Exchange System



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Ion Exchange Water Flow



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Ion Exchange Pretreatment

Acid / Base
Mixing Tank



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Ion Exchange Pretreatment



Filtration Casing



Filter Cartridge
Cleaning

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Ion Exchange Pretreatment



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Ion Exchange Columns

Anion Resin



Cation Resin



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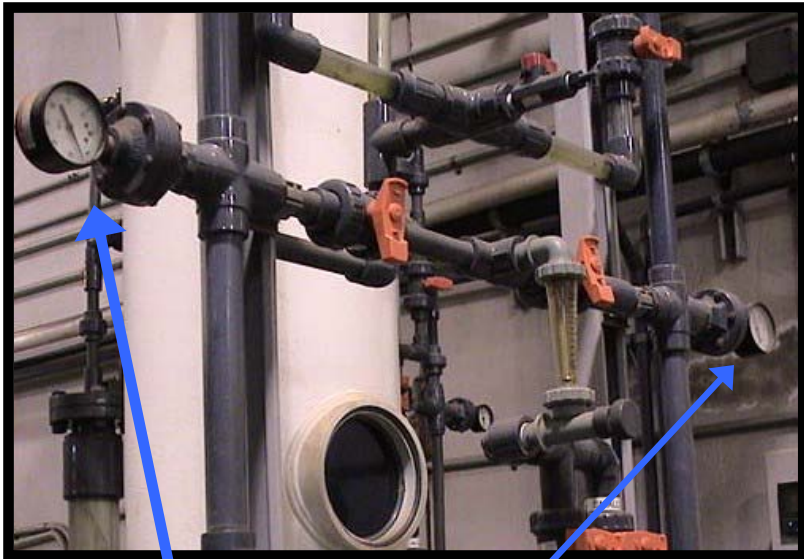
Ion Exchange Monitoring



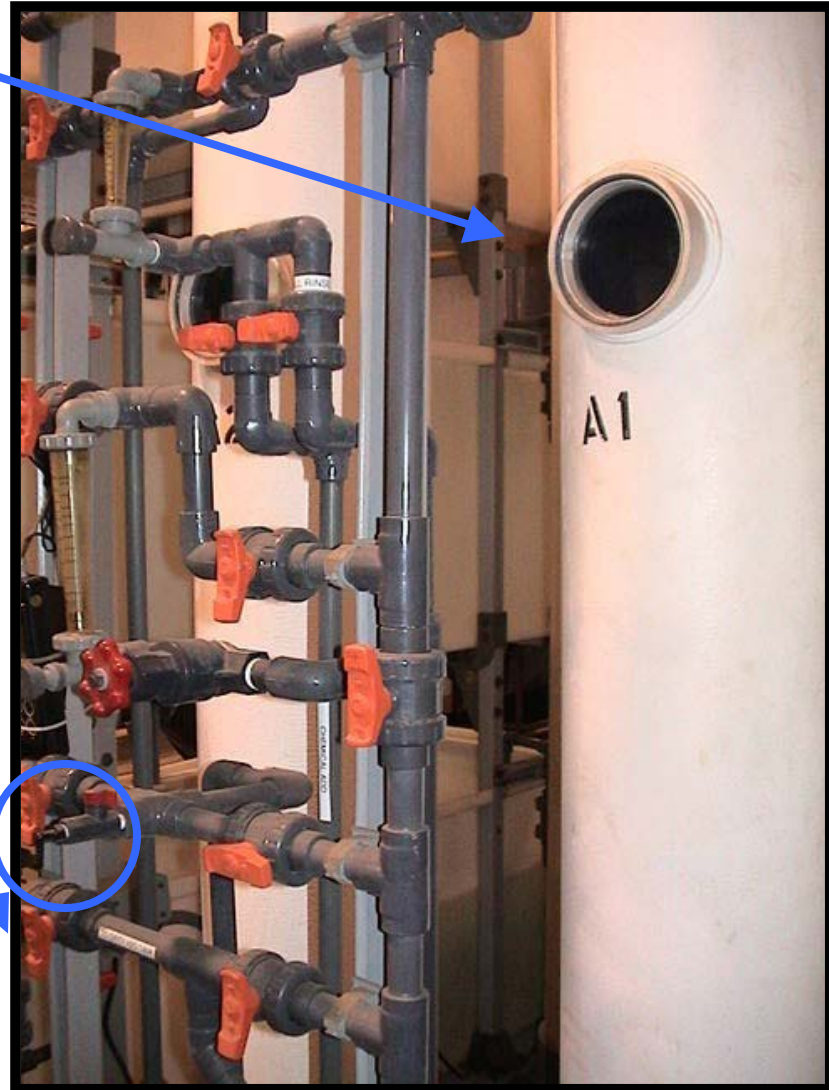
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Ion Exchange Design

Sight Glass



Pressure Gauges



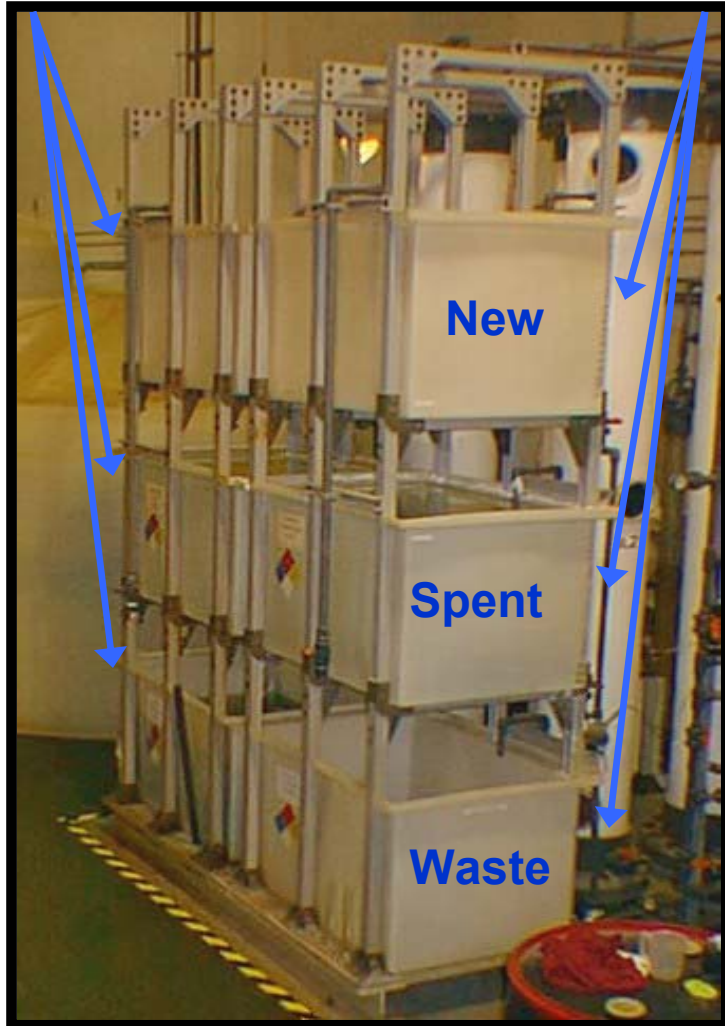
Sample Valve

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Ion Exchange Regeneration

Acid

Base



Brine Storage

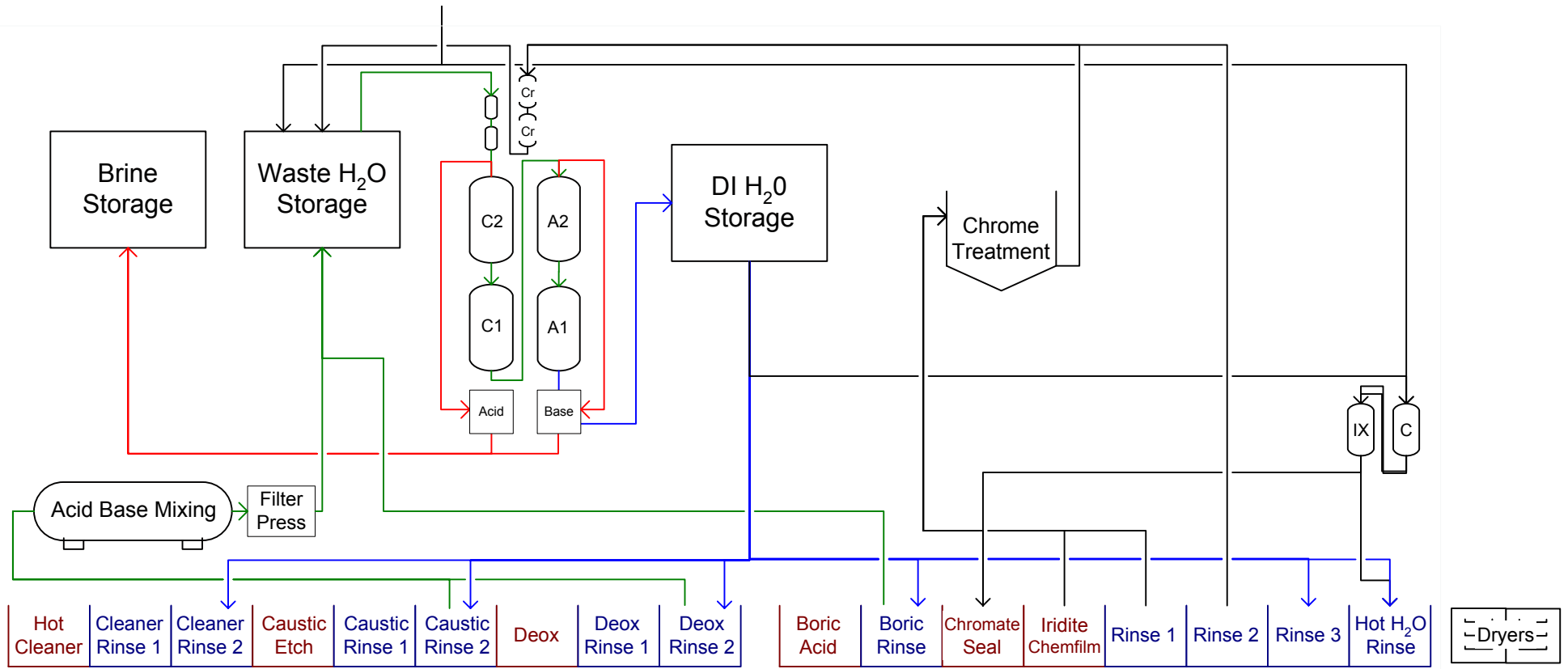
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Ion Exchange Regeneration



Esterline **HYTEK**
The Leader In High Technology Surface Finishing
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