

## Powell Dilution System

The Powell Dilution System is designed for the continuous production of diluted sodium hypochlorite, caustic, acid, methanol, ammonia, glycol and other chemicals. Powell dilution systems range in size from compact freestanding systems to skid mounted systems with integrated heat exchangers. The Powell Dilution System produces dilute in rates from several gallons per minute to several hundred gallons per minute.

The Dilution System units automatically blend multiple-streams, which are continuously monitored by the control system for proper flow and pressure rates. The control system is programmed to instantly self adjust the dilution system in the event of flow rate variations. If the flow rate cannot be automatically corrected, a deviation alarm will stop the dilution process. This automatic stop feature protects the pumps and product quality.

Powell Dilution System utilize Allen-Bradley programmable process control technology. The control systems are available with density readings which automatically compensate for variations in the strength of the concentrated feedstock. This automated response produces a more consistent strength of finished product, a more efficient use of raw materials and the ability to meet stringent product specifications.

Powell can supply pumps, valves, storage tanks, instruments and related process equipment for complete projects. A variety of control valves, flow measurement instruments, and materials



### Caustic Dilution System 150 GPM

This skid-mounted unit includes the heat exchanger. Mass flow meters with density reading allow this unit to produce extremely accurate finished product. A third stream was added later in the field. Again, using a mass flow meter that allowed for precise control of complex additive streams.

of construction are available to meet the most demanding applications.

Through advanced programming and additional hardware Powell Dilution Systems can automate raw materials handling, finished product storage and tank truck filling. With the added hardware and enhanced programming the dilution system can also be programmed to automatically keep tanks full. This feature, for example, is very useful for head tanks in bottling and packaging lines that demand a certain level be maintained in the head tank due to filling rates of the machines.

Here's how relatively simple and cost-efficient changes - with fast payback potential - can modernize your continuous or batch bleach production process to conserve raw materials and, ultimately, add dollars to your bottom line.



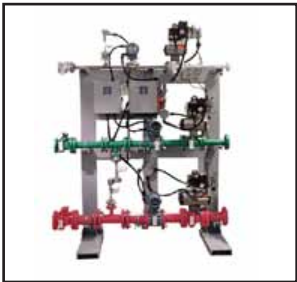
### Caustic Dilution System 10 GPM

This small capacity dilution system has welded stainless steel piping and mass flow meters with density reading. Drain valves, pressure transmitters are standard equipment.



### Caustic Dilution System 30 GPM - 200 GPM

Features remote display panel for operator interface. Lined steel and PVC piping. Automatic block valves isolate dilution system from supply header pressure. Automatic stop feature protects pumps and product quality.



### Methanol Dilution System 150 GPM

The Powell Methanol Dilution System combines water, methanol, and additive streams to produce a high quality diluted product. This unit is fully programmed for automatic stop/start operation.



### Filtrate Water Dilution System

The Powell Filtrate Water Dilution System is designed to reduce or eliminate liquid waste discharge from a bleach production process. The filtrate water is then blended with strong bleach at the outlet of the Powell Bleach Plant and prior to filtering.

### Powell Continuous Dilution System

The Powell Continuous Dilution System is designed for use with caustic, sodium hypochlorite, hydrochloric acid, phosphoric acid, sulfuric acid, methanol and other chemicals. The unit features multiple-stream blending and automatically shuts down with loss of raw materials or dilution error.

For more difficult dilution problems, the feed forward control systems using density control are utilized.

Powell Continuous Dilution System:

- A skid-mounted system with complete package controls, piping, and valves.
- Multiple blending with automatic shutdown from loss of raw materials or dilution error.
- A repeatable final product allows tight product specifications and reduces loss of raw materials.
- Feed forward control system use density control for more difficult dilution requirements.

Powell products are backed by 24 hour technical support, on site technical assistance, and on-line programming support.



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