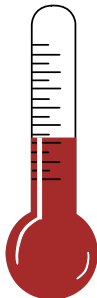


## MERLIN CAUSTIC DILUTION SYSTEMS

PREVENTS CAUSTIC FREEZING	BUY CAUSTIC, NOT WATER	REDUCE OR ELIMINATE SCALING IN PIPES	SAFETY OF LOW STRENGTH CAUSTIC
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### PREVENTS CAUSTIC FREEZING

Sodium hydroxide at a 50% concentration begins to crystallize and become very thick at temperatures as high as 55 degrees F making them difficult to feed. Diluting Caustic to a lower concentration allows it to be successfully fed at ambient temperatures as low as 15 degrees Fahrenheit eliminating the need for heat tracing on piping, valves, etc.



### BUY CAUSTIC, NOT WATER

Some users have solved their caustic freezing problem by purchasing lower concentration caustic during the colder months. Instead of having your caustic supplier sell you a low strength blend that is mostly water, blend your own concentration on site ! A Merlin Caustic Dilution System can pay for itself quickly in chemical cost savings alone.



### ELIMINATES SCALING

Sodium hydroxide can precipitate scaling in the piping and process injection point when fed at high concentrations, ultimately causing maintenance and distribution problems. This is caused by a drastic pH change when water hardness exceeds a certain threshold. Lowering the concentration of the source caustic in many cases will alleviate this problem and thus reduce maintenance costs.



### SAFETY OF LOW STRENGTH CAUSTIC

Feeding lower strength caustic can reduce liability and increase safety. For example, servicing pumps, piping and valves in a caustic feed system is FAR SAFER when dealing with a 5% solution strength instead of a 50% solution strength.



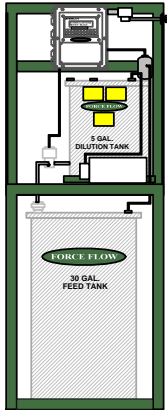
The heart of our Hypo Dilution System is the Merlin Dilution Controller.



# MERLIN CAUSTIC DILUTION SYSTEMS

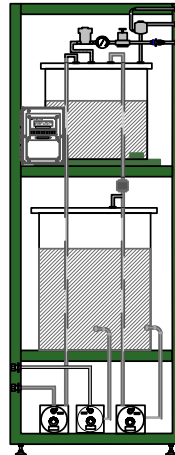
## MODELS & ORDERING INFORMATION

**MODEL: MDS-5D30F**  
CAPACITY: 500 GPD



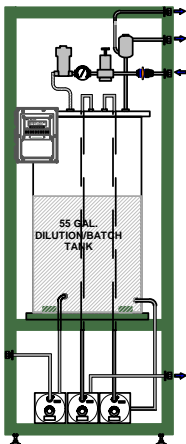
HEIGHT: 70"  
WIDTH: 22"  
DEPTH: 26"  
BATCH TANK: 5 GALLON  
FEED TANK: 30 GALLON

**MODEL: MDS-17D55F**  
CAPACITY: 1500 GPD



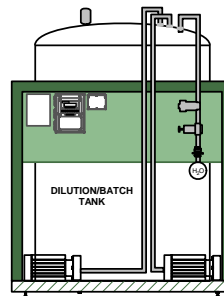
HEIGHT: 78"  
WIDTH: 29"  
DEPTH: 31"  
BATCH TANK: 17 GALLON  
FEED TANK: 55 GALLON

**MODEL: MDS-55D**  
CAPACITY: 5000 GPD



HEIGHT: 84"  
WIDTH: 33"  
DEPTH: 24"  
BATCH TANK: 55 GALLON  
FEED TANK SPECIFY

**MODEL: MDS-500D**  
CAPACITY: 50,000 GPD



HEIGHT: 56"  
WIDTH: 60"  
DEPTH: 60"  
BATCH TANK: 500 GALLON  
FEED TANK: SPECIFY

## TYPICAL SPECIFICATIONS

SYSTEM SHALL BE DESIGNED TO TAKE NEAT SODIUM HYDROXIDE DELIVERED IN APPROXIMATELY 50.0% STRENGTH SOLUTION AND DILUTE IT TO APPROXIMATELY \_\_\_\_\_ SOLUTION STRENGTH. ALTHOUGH THIS IS THE INTENDED USE, THE DILUTION SYSTEM SHALL BE TOTALLY FLEXIBLE AND CAPABLE OF DILUTING ANY STRENGTH OF SODIUM HYDROXIDE SOLUTION TO AS LOW AS 0.1% CHEMICAL SOLUTIONS. DILUTION SYSTEM SHALL USE A SYSTEM OF AUTOMATICALLY CREATING SMALL WEIGHT BASED BATCHES ON DEMAND TO ACHIEVE DILUTION ACCURACIES OF UP TO 1/10TH OF 1%. THE SYSTEM SHALL USE A MICROPROCESSOR BASED CONTROLLER TO CONTROL THE OPENING AND CLOSING OF A WATER VALVE AND CHEMICAL TRANSFER PUMP TO CREATE THE DILUTED BATCH. AFTER THE BATCH IS CREATED, CONTROLLER SHALL ACTIVATE A RELAY THAT TRANSFERS THE DILUTED SODIUM HYDROXIDE TO A FEED TANK. CONTROLLER SHALL OPERATE A RECIRCULATION PUMP (FOR MIXING) ON THE FEED TANK AND SHALL HAVE A USER SELECTABLE FREQUENCY AND DURATION. DILUTION SYSTEM SHALL BE PREASSEMBLED, CALIBRATED AND TESTED PRIOR TO DELIVERY. COMPLETE DILUTION SYSTEM SHALL INCLUDE ALL NECESSARY PIPING, TANK VENTING, SOLENOID VALVES, PLUMBING CONNECTIONS, PUMPS, DILUTION TANK, FEED TANK, WEIGHT SENSORS, CONTROLLER, RELAYS AND EMERGENCY OVERFLOW SWITCH NECESSARY FOR SOLE SOURCE RESPONSIBILITY. SYSTEM SHALL HAVE A MAXIMUM CAPACITY OF \_\_\_\_\_ GALLONS OF DILUTED CHEMICAL PER DAY.

