



GCH[®] Hydrator System

**Fast, efficient liquification
of dry chemicals**

Chemical solution users—get the savings and convenience of dry shipment with the GCH[®] Hydrator.

Have you ever wanted the transportation savings of ordering a dry chemical, although its ultimate use will be as a solution or slurry? With the GCH Hydrator you can do just that.



Developed by General Chemical, the patented GCH Hydrator has already been proven in use with a variety of dry chemicals. It can

unload 100-ton rail cars, providing trouble-free liquification at conversion speeds of up to 15 tons per hour, at your plant site or at a convenient terminal.

Investigate its suitability for your operations and eliminate dust and fumes, substantially reduce noise levels and vary solution concentrations easily.

Of course, the most important advantage is gaining the economies of transporting a material in dry form and handling it as a liquid on site.



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SODA ASH PLANT
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GCH® Hydrator System

SITE REQUIREMENTS

In addition to the preceding GCH@ Hydrator equipment information, the following site requirements warrant careful consideration to ensure maximum performance from your installation:

1. The dissolving fluid - solution or water - must be free of undissolved solids.
2. The storage tank must be clean, and if lined, the lining must be sound.
3. The distance between the tank and hydrator should not exceed 300 feet.
4. The pipe-runs from tank to hydrator should have the fewest possible elbows.
5. The discharge head should not exceed 30 feet.
6. The hydrator discharge line must be installed, in the tank, above the maximum solution level.
7. A check valve should be installed in the hydrator discharge line to limit return flow in the event of a pump motor failure.
8. Piping in and out of the hydrator must be supported.
9. A pump motor power disconnect switch must be located near the hydrator.
10. A 12-inch long spool piece should be installed at the hydrator inlet for inspection and clean out of the eductor.
11. Pressure gauges should be installed before and after the hydrator at sufficient distance from fittings and valves to avoid false readings.
12. Provide flushing water and drains for the hydrator and pump/motor units.
13. (Optional) Install a pump motor activated valve at the hydrator inlet.
14. (Optional) Pitch the hydrator discharge to drain into the tank.

TECHNICAL SUMMARY

Capacity, Tons/Hour	7-15
Solution Flow, gpm	500
Motive Pressure, PSIG	110
Total Developed Head, ft.	250
Pump Brake, HP	60
Pump Motor Type	TEFC, Mill & Chem. Duty, Service Factor = 1.15

GCH® HYDRATOR

Operating Range

Pressure, PSIG ¹	80-200
Temperature, °F ¹	95-180

Hydrator Assembly

Inlet	3-in FPT
Outlet	4-in ANSI, 150 Flange
Overall Length	46¼ in
Elevation: Inlet and Outlet ³	6½ in

Recommended Pipe Diameter, Inches

Supply: Tank to Hydrator ⁴	6
Return: Hydrator to Tank ⁴	6

Valve and Fitting Requirements

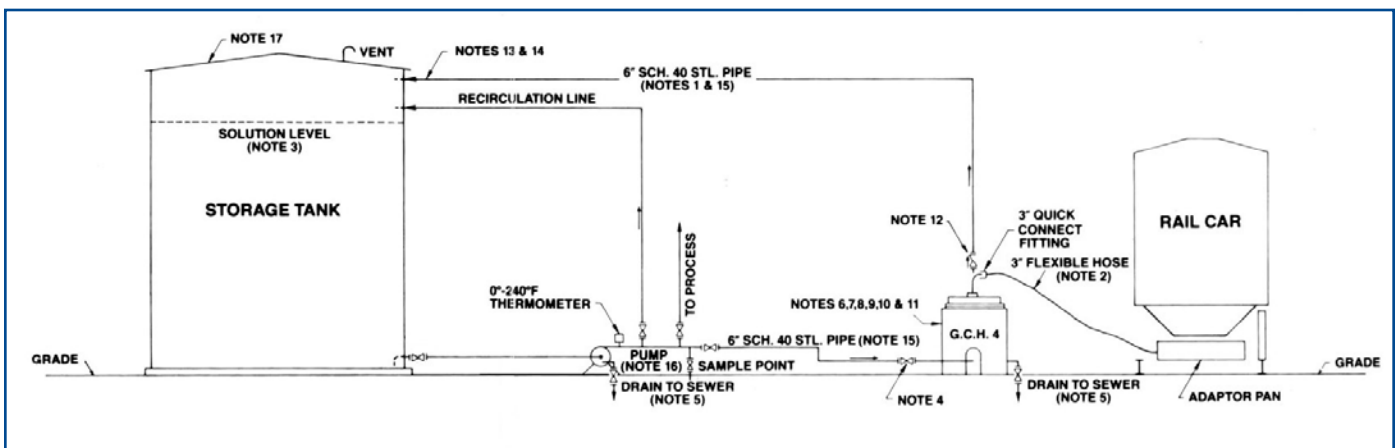
Recommended Type	Gate Valves, Welded Fittings
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Dimensions, Inches

Length ²	46¼
Width	16½
Height ⁵	34¼

Weight, Pounds

Unloaded	590
Accessories	116
Crated	1,050



¹Recommended minimum-maximum values

²Inlet to outlet, on centerline

³From base to centerline

⁴Transitions (reducers) required at pump and hydrator

⁵To top of dry product inlet pipe; add 24 inches for Vacuum hose swivel fitting and vacuum gauge.

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