GMP
Glycol Make-up Package

Glycol Make-Up Package

You could dig up an

electric motor; hook it

to a spare liquid transfer pump;

scrounge around for

some kind of

magnetic starter;

jury-rig a level-sensing device;

connect it to an audio/visual

alarm; rustle up a glycol

supply

tank;

throw in some

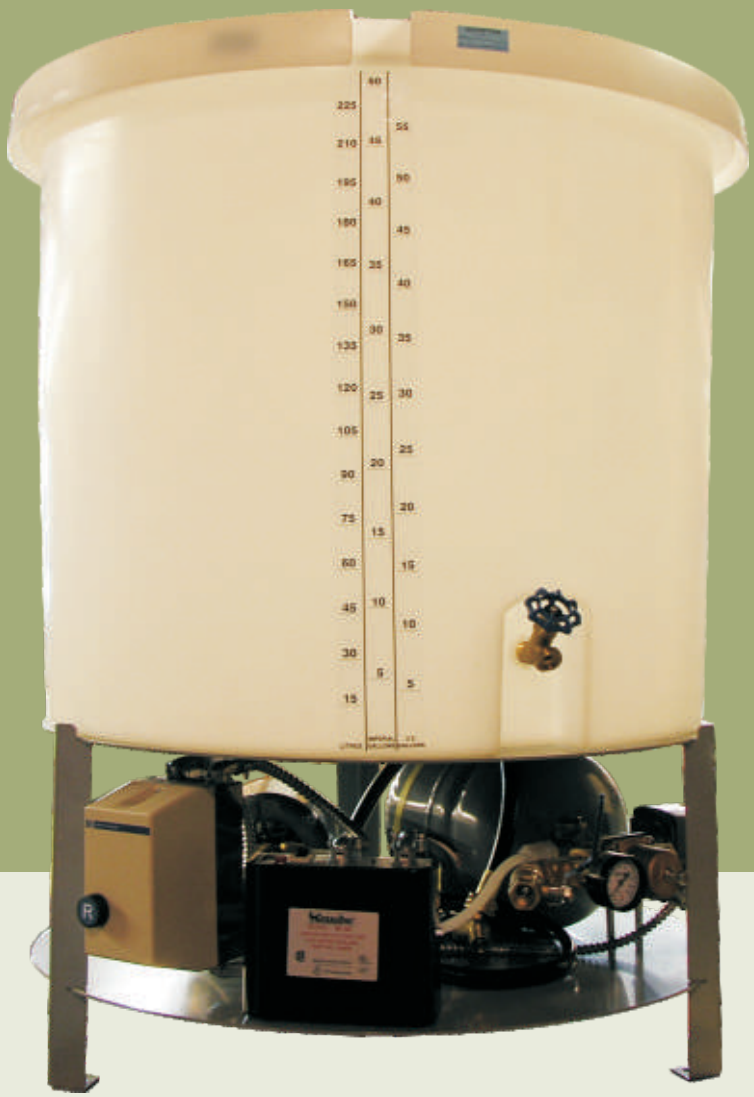
switches, valves,

hoses and tubing and spend

six months de-bugging

the thing.

Or Simply Buy One of These

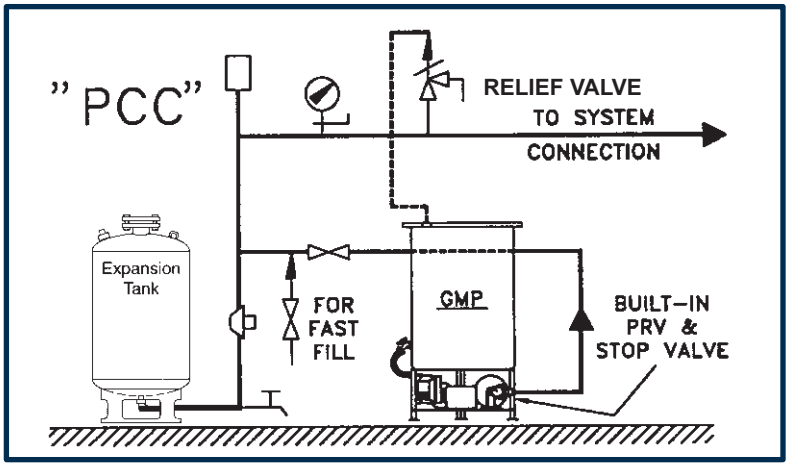


PL3-02E

Glycol Make-Up Package

When a glycol solution is used in a heating/cooling system, the system is deprived of city water pressure or booster pump pressure, used to maintain minimum system pressure.

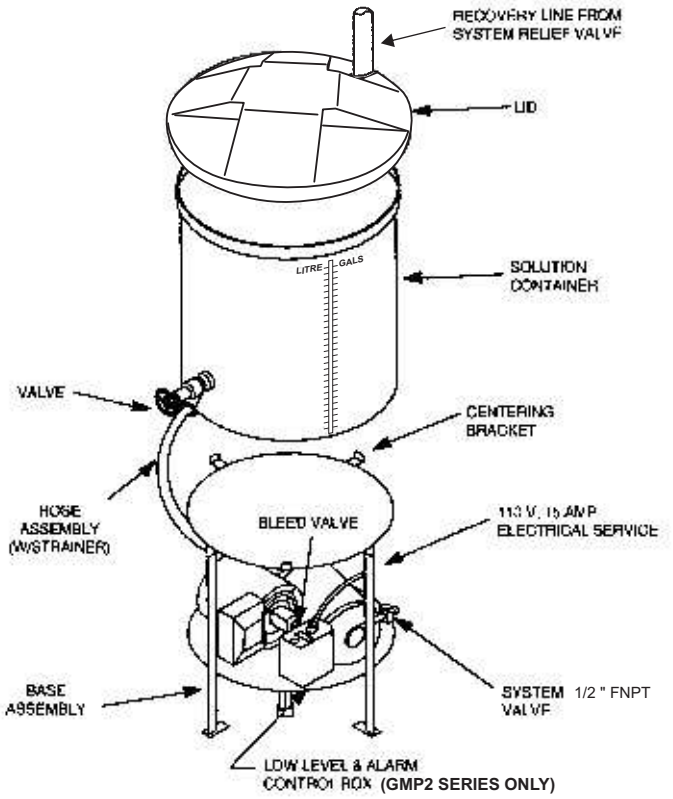
To keep the system full of glycol and to maintain the appropriate pressure, it is necessary to add additional glycol solution manually or to utilize a pump and a series of controls. The GMP series is designed to continuously monitor the system pressure. It will maintain the set minimum pressure in the system by adding make-up glycol solution automatically, as it is required.



Pressure Control Components (PCC) for Glycol Systems

The GMP automatically monitors, controls and maintains the required minimum pressure in the heating/cooling glycol system.

Typical Specification



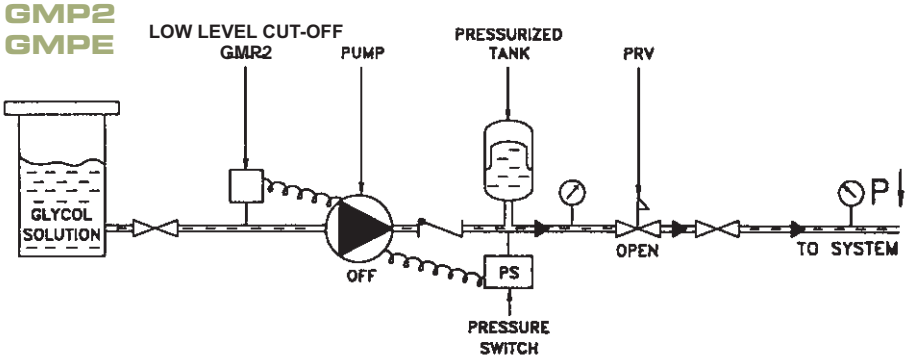
The GMP2 package features an alarm arrangement which will stop the pump in case of low glycol solution level. It will warn the operator by activating an audible (which can be silenced) and a visual alarm.

The GMP2 and GMPE pumping assembly is mounted on a sturdy steel frame, complete with legs to keep it off the floor. The package includes a pump, a built in pressure relief valve, a pressure tank, a priming valve, a PRV, a shut-off valve, a pressure gauge and a 50 or 100 gallons tank with level indicator.

OPERATION

The operation of the Glycol Make-up Package can be described in the following figures:

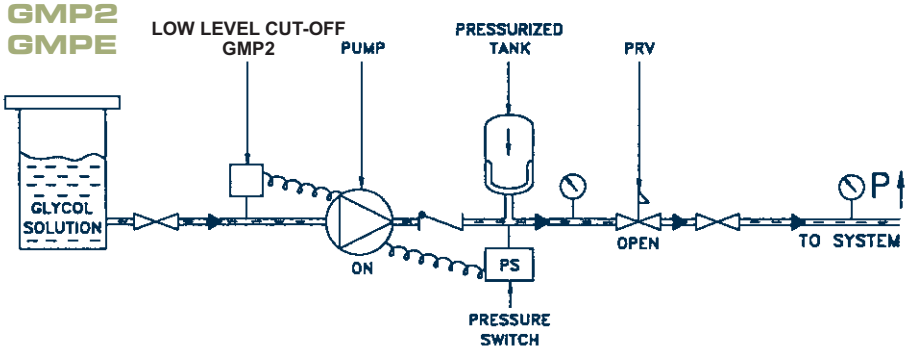
STEP 1:
GMP2
GMPE



GMP2 & GMPE

The pressure in the heating/cooling system decreases to the minimum allowable pressure
(or fill pressure +/-):
the "PRV" Pressure Reducing Valve opens.

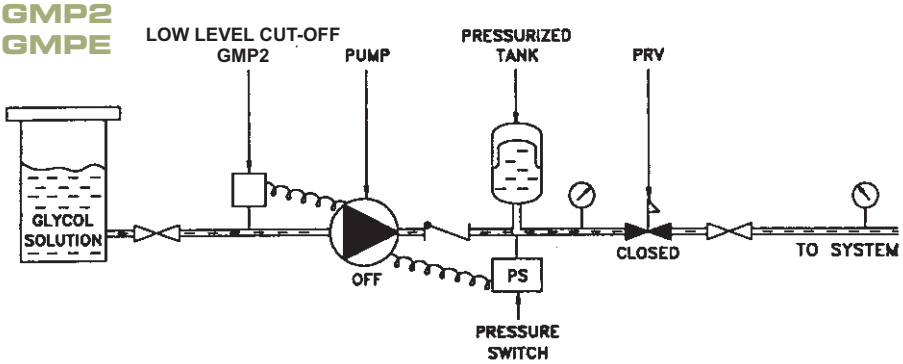
STEP 2:
GMP2
GMPE



GMP2 & GMPE

The glycol stored in the pressure tank will flow into the system. The pressure will continue to decrease on the supply side of the PRV, until the pump cut-in pressure is reached.
The pressure switch will send a signal to the pump to start and maintain glycol in the system and pressure tank so that the PRV is not deprived.

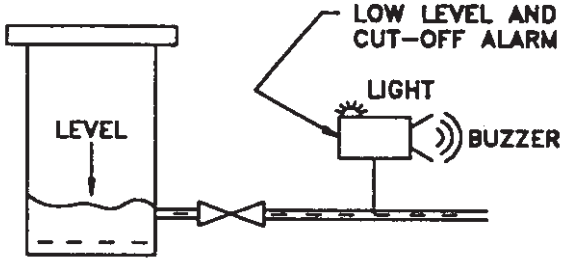
STEP 3:
GMP2
GMPE



GMP2 & GMPE

The pump will run until all the following conditions will be attained.
1) The pressure in the glycol system reaches and stays at or above the PRV setting.
2) The volume of the glycol solution in the pressure tank increases until the pump cut-out pressure is detected by the pressure switch. If the pressure in the heating/cooling glycol system decreases again, Step 1, Step 2, and Step 3 will be followed again.

STEP 4:
GMP2
ONLY



GMP2 ONLY

On GMP2 Series, if the package runs out of glycol solution, a "low level control alarm" will cut off the pump and activate an audible-visual alarm (including the contact for remote alarm if connected).

Advantages of using automatic system feeders:

PREVENTS MAJOR FLOODS
In the event of a major system leak, only the contents of the storage tank will be pumped into the system.

NO DIRECT CONNECTION TO POTABLE WATER SUPPLY
Eliminates the need for backflow prevention devices.

PROVIDES LEAK DETECTION
Dropping solution level in the storage tank warns of developing system leak.

TREATMENT CHEMICALS
Allows mixing of treatment chemicals in make-up water, if desired.

AUDIBLE AND VISUAL ALARM
The optional remote alarm kit alerts the user if there is a system leak, allowing quick corrective actions.

EPA PROTECTION AND EXCESSIVE PRESSURE CONTROL
Piping relief valve to the solution reservoir eliminates EPA concerns of solution disposal.

Solution Reservoir

- Visible solution level with scale
- Hypoallergenic
- Easy access for re-filling

Low Fluid Alarm

- Safety shut-off shuts system down if solution level gets low
- Notifies operator with audible and visual alarms

Pressurization Control Station

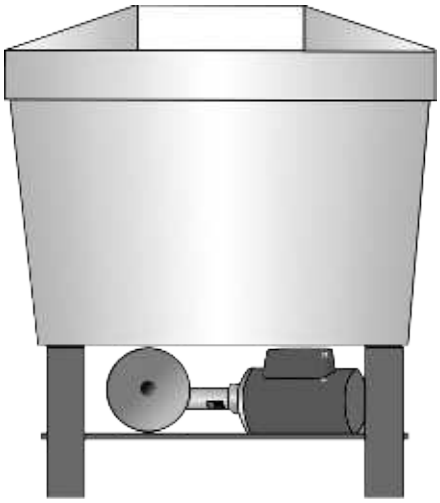
- Excessive pressure protected by cut-off switch
- Low liquid level audible alarm (can be silenced)
- Low liquid level visible alarm
- Pump protection alarm

Pressure Regulating Valve

- Maintains optimum system design pressure

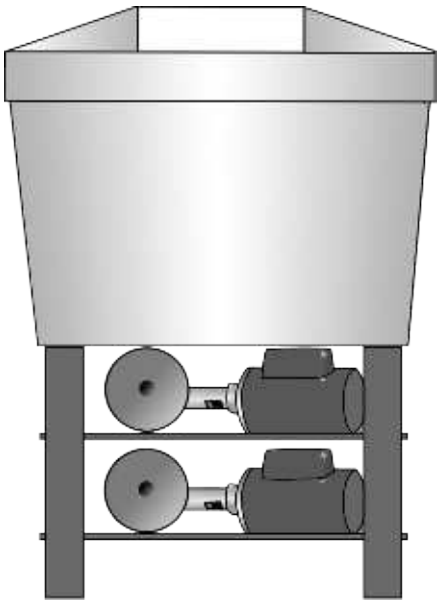
Sturdy Base

- Steel construction
- Easy access to components



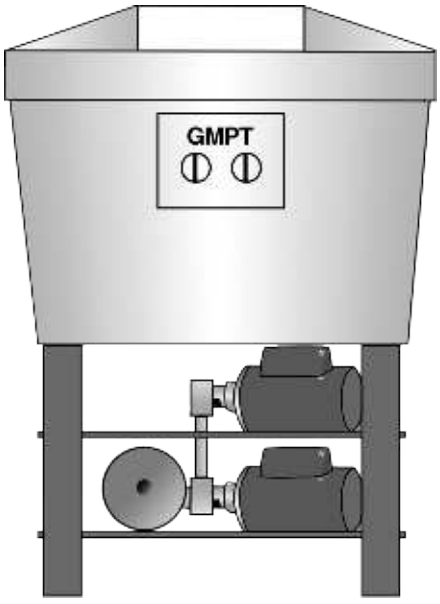
Single System GMP Units

The single system GMP is designed to automatically service one closed-loop space heating, chilled water, snowmelt, radiant heating, sprinkler, or process control system. This GMP series is available with 50 or 100-gallon reservoir capacities and 1/3 or 1/2-HP pump pressurization control station with magnetic starter. The 1/3-HP station is used for systems requiring up to 50PSI metering pressure, and the :1/2-HP station is used for systems up to 70-PSI.



Duplex GMP Units

Duplex GMP Units The Duplex GMPD is designed to automatically service two separate closed-loop space heating, chilled water, snowmelt, radiant heating, sprinkler, or process control systems. This GMPD-series is available with 50 or 100-gallon reservoir capacities and with two (2) 1/3 or (2) 1/2-HP pump pressurization control stations with two (2) magnetic starters. The 1/3-HP stations are used for systems requiring up to 50-PSI metering pressure, and the 1/2-HP stations is used for systems up to 70-PSI.



Twin GMP Units

Twin GMP Units
The Twin GMPT is designed to automatically service one closed-loop space heating, chilled water, radiant heating, sprinkler, or process control system. This GMPT series is available with 50 or 100-gallon reservoir capacities and with (1) pump pressurization control station with (2) 1/3 or (2) 1/2-HP pumps. A control panel with alternator and two magnetic starters is used to alternate between the two (2) pumps. The : 1/3 HP station is used for systems requiring up to 50-PSI metering pressure, and the 1/2-HP station is used for systems up to 70-PSI.

Typical Specification

• The contractor shall supply and install, as indicated on the plans and in the specifications, a prefabricated, automatic and autonomous make-up package for (the) (each) glycol system.

• The package shall be designed to occupy a minimum amount of floor space to operate on a standard 110V, 60 Hz electrical circuit, and to maintain a fill pressure in the glycol system of _____ psi. The pumping assembly shall be mounted in a sturdy steel frame with legs to keep it off the floor.

• It shall include a _____ US GPM) at _____ (psi) pump, a (1/3) or (1/2) HP motor, a magnetic starter, a pressure tank with pressure control, a priming valve, a pressure reducing valve, a shut-off valve and a pressure gauge. It shall be connected to the system with a 1/2" NPT connection. It shall feature a cut-off and alarm arrangement, which will stop the pump in case of excessive pressure, or a low solution level, and activate an audible (which can be silenced) and a visual alarm. A 110V dry contact shall also be available for a remote alarm.

• A translucent polyethylene (50) or (100) gallon solution reservoir, complete with lid, shall be mounted on the pumping assembly and shall include a strainer and a shut off valve. A _____ in. NPT glycol solution recovery line shall be piped in from the system relief valve out let to the solution container, through its lid in such away that the lid can be removed for filling and mixing.

• The make-up package shall be Expanflex model GMP- _____ with discharge pressure factory preset at 12 psi. and field adjustable as sold by _____.

For Duplex GMP Systems replace paragraph 3 with:

• The system shall consist of two independent pressur modules for two glycol/water applications. Each module shall include a _____ (US GPM) at _____ (psi) pump, a (1/3) or (1/2) HP motor, a magnetic starter, a pressure tank with pressure control, a priming valve, a pressure reducing valve, a shut-off valve and a pressure gauge. It shall be connected to the system with a 1/2" NPT connection. It shall feature a cut-off and alarm arrangement, which will stop the pump in case of excessive pressure, or a low solution level, and activate an audible (which can be silenced) and a visual alarm. An 110V dry contact shall also be available for a remote alarm.

For Twin GMP Systems replace paragraph 3 with:

• It shall include two _____ (US GPM) at _____ (psi) pump, a (1/3) or (1/2) HP motor, magnetic starters, a pressure tank with pressure control, a priming valve, a pressure reducing valve, a shut-off valve and a pressure gauge. It shall be connected to the system with a 1/2" NPT connection. It shall feature a control panel equipped with H-O-A switches for each pump starter, and a fail safe alternator that allows one pump to operate if the other pump malfunctions. It shall feature a cut-off and alarm arrangement, which will stop the pump in case of excessive pressure, or a low solution level. and activate an audible (which can be silenced) and a visual alarm. An 110V dry contact shall also be available for a remote alarm.

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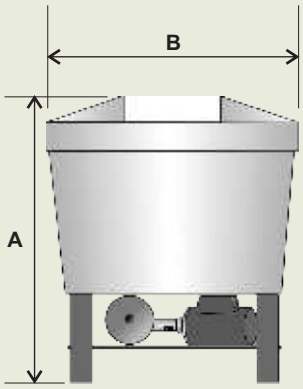
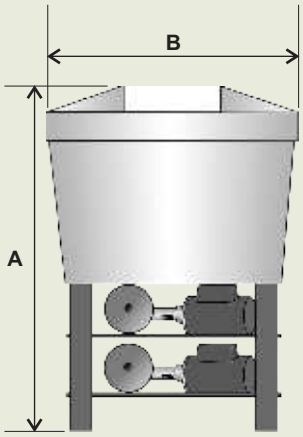
Single System GMP Units



Model Number	Make-Up Capacity		Motor			Pressure Range		Solution Container		Dimensions (inches/cm)				Approx. Weight	
	gmp @ psi	l/m@Kpa	HP	kw	Voltage	psi	Kpa	gal	l	A		B		lbs	kg
GMP2-50	1.8 @ 70	6.8 @ 482	1/3	0.2	120V/1ph/60hz	10-70	69-482	50	189	42"	107cm	28"	71cm	90	41
GMP2-100	1.8 @ 70	6.8 @ 482	1/3	0.2	120V/1ph/60hz	10-70	69-482	100	378	67"	170cm	28"	71cm	105	47
GMPE-50	1.8 @ 70	6.8 @ 482	1/3	0.2	120V/1ph/60hz	10-70	69-482	50	189	42"	107cm	28"	71cm	95	43
GMPE-100	1.8 @ 70	6.8 @ 482	1/3	0.2	120V/1ph/60hz	10-70	69-482	100	378	67"	170cm	28"	71cm	110	49

Duplex GMP Units



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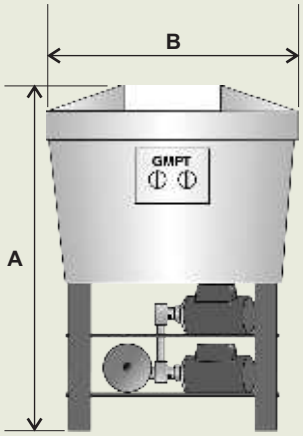
Twin GMP Units



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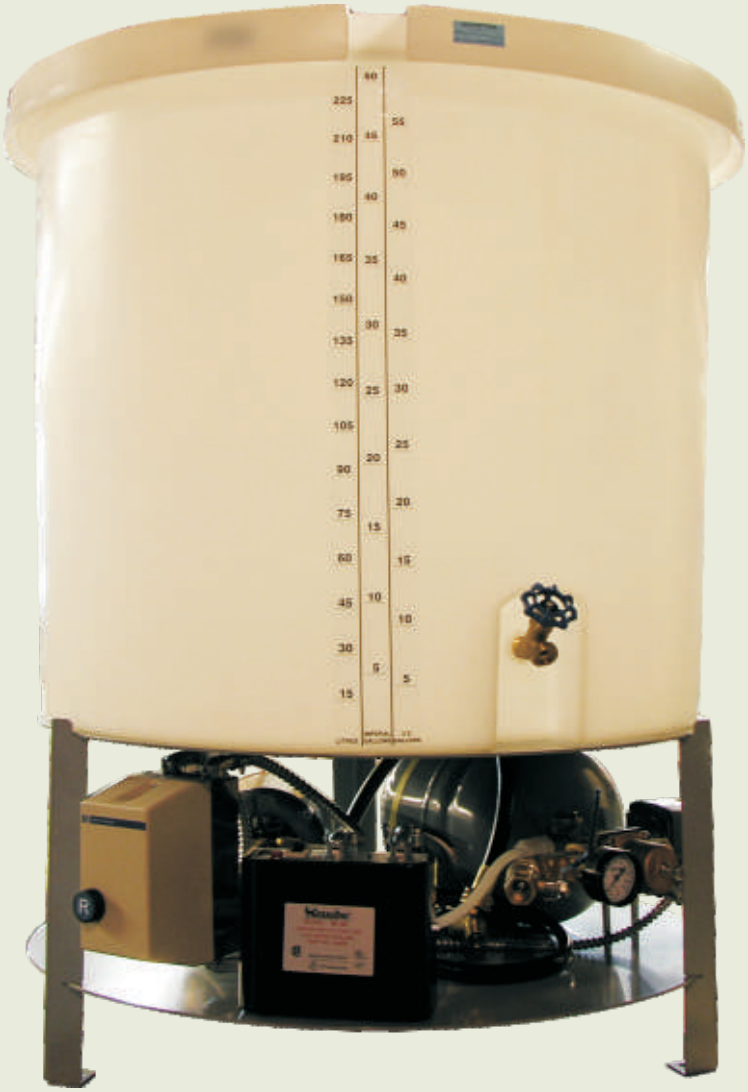

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