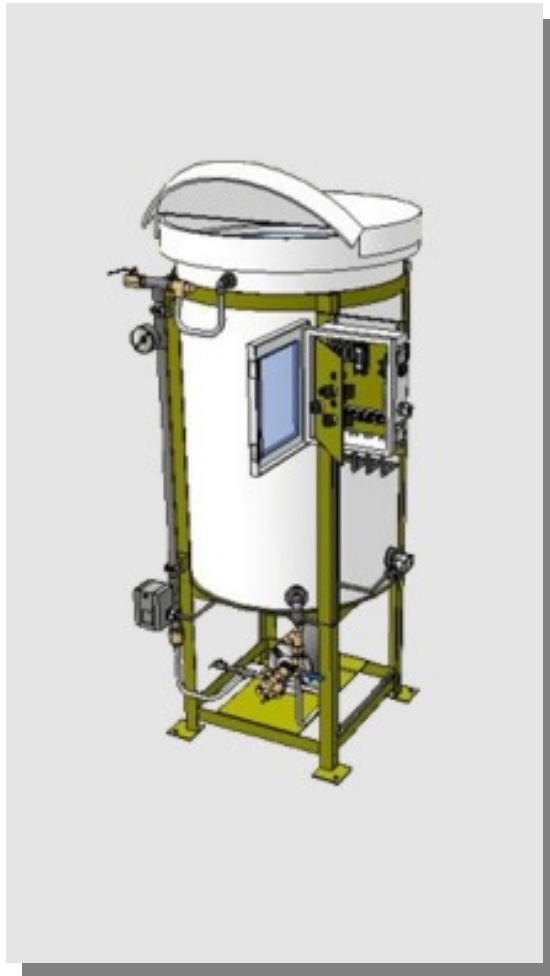
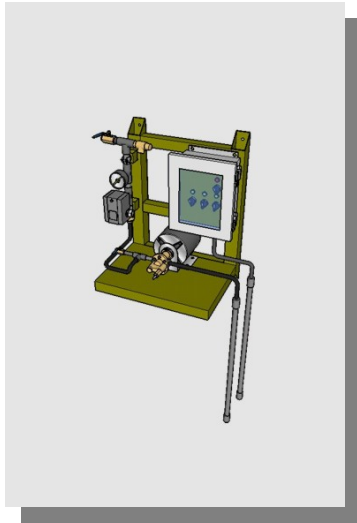




Industrial Gly-Pack Feed Systems Operations & Maintenance Manual



**Model, Serial Number and Other Information
is recorded for you on the back of this document.**

Manufacturing: Bypass & Filter Feeders, Glycol Feed Packages, Separators & Separator Systems, Tanks, Tank Stands, Chemical Batch Mixers, Corrosion Coupon Racks, Packaged Feed Systems and Custom Systems

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***** WARNING *****

- ✪ ALL FASTENERS SHOULD BE PROPERLY SECURED BEFORE OPERATION AS THEY MAY BE LOOSENED IN TRANSIT
 - ✪ PERSONNEL SAFETY PRACTICES SHOULD APPLY AT ALL TIMES
 - ✪ SAFETY GLASSES OR FACE SHIELDS AND GLOVES SHOULD BE WORN
 - ✪ DO NOT SERVICE GLYCOL FEED PACKAGE WITH OUT DISCONNECTING POWER
- ✪ CLOSE ISOLATION VALVE AND RELEASE PRESSURE BEFORE SERVICING ANY COMPONENTS ON THE SYSTEM
 - ✪ ALL LIQUIDS IN SYSTEM SHOULD BE DRAINED BEFORE SERVICING

✪ **1.0 Introduction**

Thank you for choosing General Treatment Products Industrial “Gly-Pack” Glycol Feed Package. This industrial, automated package comes complete and ready to install. In this document we explain the basics for locating, installing, adjusting and operating this glycol fed system. For further information, please contact us at customerservice@gtppcompany.com or call us at the phone number on the cover.

✪ **2.0 Warranty**

General Treatment Products Gly-Pack Feed Systems are guaranteed for two years from date of shipment against manufacturing defects in material and workmanship that develop in the service for which they are designed. We will repair or replace a defective part of this system when returned to our factory with freight prepaid; providing that the part is found to be defective upon inspection. We assume no liability for labor and/or other expenses in making repairs or adjustments.

★ 3.0 Unpacking

Upon receipt of order, inspect package thoroughly. In the event there was damage incurred in transit you must notify the freight company within **3-5 days of receipt of order**. Once system is inspected for damage and received in good condition, and store indoors until installing.

★ 3.1 Order Verification

MODEL									
GP	55	-E1	-1	-HM					
<div style="border: 1px solid black; width: 100%; height: 100%;"></div>					OPTIONS				
					-HM	High Temperature Discharge Manifold			
					-DGL	Digital Glycol Control Panel			
					-SC	Surge Suppression Chamber			
					-AL	Audible Alarm & Silence Switch			
					-DC	Remote Dry Contact on Low Level			
					-MX	Mixer & Control Switch			
					-HL	High Level Indicator			
					Note: See pricing for complete options list				
					PRESSURE RANGE				
							CUT-IN	CUT-OUT	PSID
					1		10-45 (20*)	20-50 (40*)	10-30 (20*)
					2		40-80 (60*)	65-100 (90*)	20-40 (30*)
					3		3-10 (8*)	9-30 (15*)	6-20 (7*)
CST	Custom (See back of manual and inside of pressure switch cover to verify).								
PUMP									
D	Dual Pump System								
E	Standard Model								
H	High Temp Model								
4	1.3GPM at 100PSI gear pump								
5	3.0GPM at 100PSI gear pump								
SIZE (GALLONS)									
15	15 gallon PE tank and hinged cover								
30	30 gallon PE tank and hinged cover								
55	55 gallon PE tank and hinged cover								
100	100 gallon PE tank and hinged cover								
BASE MODEL									
GP	Glycol industrial package, tank, hinge lid, stand, low level, pressure switch, pump, pressure gauge and pressure relief.								
GX	Glycol industrial wall mount package, low level wand, pressure switch, pump, surge tank, pressure gauge and pressure relief.								

Note: Not all options and sizes available on all systems. See pricing for standard models. (* Standard factory setting for pressure switch.)

★ 4.0 LOCATION AND ENVIRONMENT

Although the control panel is NEMA rated, the gear pump, pressure switch and power cord should not be exposed to direct elements. In most cases, there will not be a dry indoor location that is convenient to install the glycol feed system. Some shelter, awning or shed needs to be installed to validate warranty.

★ 5.0 INSTALLATION

Once location is decided on, system need to be securely mounted to concrete base. **Be sure that mounting pad and anchoring bolts comply with local building codes.**

Glycol feed packages come standard with an 8FT power cord. Power supply with no less than 15 amps should be within 8FT of package. **Extension cords should not be used at anytime.** Systems can be hardwired, if need. Have only an experienced electrician hardwire system. Wiring diagrams are provided in section 9.0.

★ 5.1 CONNECTING TO SYSTEM

Glycol feed package should be installed within 10 to 30 feet of system. If system is to close, it is difficult to set low pressure systems. If system is to far, pump outputs will very based on pipe size, elbows and other fittings.

Industrial Packages “GP-Series” using $\frac{1}{2}$ ” isolation valve (supplied) should be connected to system using a minimum pipe size of $\frac{1}{2}$ ”. **DO NOT INSTALL CHECK VALVES OR PRESSURE REDUCING VALVES BETWEEN GLYCOL FEED PACKAGE AND SYSTEM.** The installation of check valve or pressure reducing valves will cause problems with reading system pressure accurately. Material of pipe should be consistent to material of system or from materials limitations chart as stated in section 6.0.

★ 5.2 ADJUSTING THE PRESSURE RELIEF VALVE

Turning the pressure valve counter-clockwise will decrease the system pressure relief setting and turning the valve handle clockwise will increase the pressure setting. If an engineer or system designer has not set the system pressure relief for you, you should have the glycol system setting above 3% to 5% higher than the main system pressure relief valve. That way in the case of system over pressure, the contents of the system will not over flow the glycol package.

★ 5.3 ADJUSTING THE PUMP INTERNAL PRESSURE RELIEF

(Bronze gear pumps only) Turning the set screw and lock nut counter-clockwise will decrease the pump internal pressure relief setting and turning it clockwise will increase the internal pressure relief setting. This feature is a pump standard, and on our system is only needed when setting the pump in low pressure systems. Over adjustment may cause harm to the operations of the pump. It's normally best to leave this alone. If you have a pump that is not performing, give us a call and well be glad to help.

★ 5.4 SETTING THE PRESSURE SWITCH

GTP Glycol Feed Packages, when specified, can be factory pre-set to your system requirements. When requested, your factory settings will be listed on label on back of instruction manual and on packing slip. If you are setting the pressure switch on site, please follow the steps below.

STEP 1) close isolation valve and open pressure relief valve.

STEP 2) Start systems in manual and adjust pressure relief valve to cut-in pressure desired. (This should be the low pressure setting)

STEP 3) Turn large nut on pressure switch out (counter-clockwise) until pressure switch is off.

STEP 4) now, turn same nut on pressure switch in (clockwise) until pressure switch is on.

STEP 5) Adjust pressure relief valve to cut-out pressure determined. (This will be the high pressure setting)

STEP 6) If pressure switch has not turned off, turn small nut (counter-clockwise) until pressure switch turns off.

STEP 7) If pressure turn off before you could set it, turn small nut clockwise 2 or 3 revolutions and repeat STEP 6.

STEP 8) Test setting by adjusting pressure relief valve in and out of range before returning system to automatic position.

❁ 5.5 SETTING THE DIGITAL GLYCOL CONTROLLER

The digital controller displays the current system pressure and activates a relay to start the glycol feed pump whenever system pressure drops below a preset limit pressure is monitored by a pressure sensor in the flow assembly.

As the glycol feed pump adds solution to the system, the system pressure increases. Once the pressure increases to the preset number of PSI, the relay will deactivate, in turn shutting down the glycol feed pump.

A pressure relief valve is provided to insure that preset pressure is not exceeded. If ordered with the correct option, the control unit can provide a second set point to activate a solenoid valve in place of the standard pressure relief valve to prevent over pressurization of the system. If the system pressure exceeds the preset high-pressure limit, a second relay within the controller will activate. This in turn opens a solenoid valve on the bypass/return line to the solution tank.

When the unit is properly plumbed and wired, the unit will display the current pressure in PSI

Controller Operation

A. Front Panel Display

- a. Control Panel Buttons:
 - View - displays menu options
 - Function Select - advances menu options
 - Value Adjust - changes menu settings
 - Test - activates relays and alarms for 3 minutes
- b. Control Panel LED Lights:
 - Power- Illuminates when unit powered
 - Relay - Illuminates when a relay is activated
 - Alarm** - Illuminates when the system pressure is not satisfied
- c. System Functions:
 - Calibrate** - current reading of the system pressure (PSI)
 - Falling Trip Point** - Factory Setting; Consult Factory Before Changing
 - Feed Limit - maximum amount of time the pump will be allowed to run
 - Alarm - activates a second relay for solenoid to open in case of system over pressurization
 - Differential - pressure the system must rise in order for the pump to shut off
 - Set Point - setting in which the pump will activate

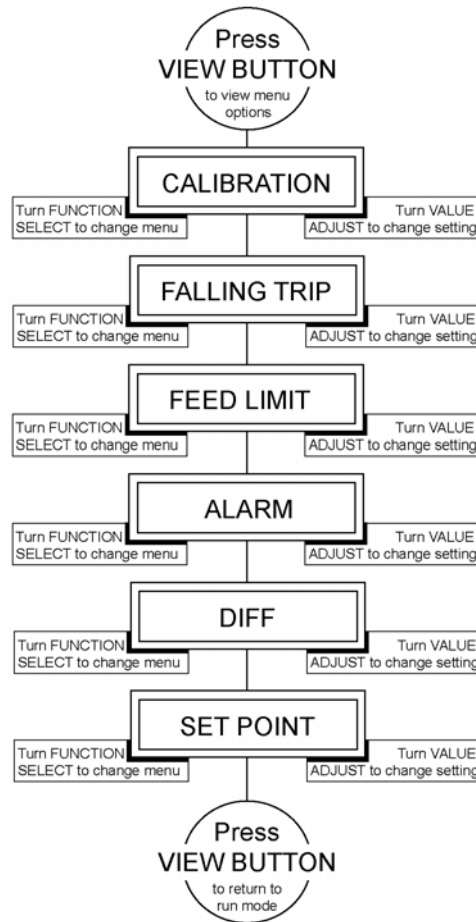
B. Control Set-up

1. Press VIEW then adjust the FUNCTION SELECT knob to view functions.
2. Stop on the displayed function and use the VALUE ADJUST knob to change the value.
3. After setting a value, adjust FUNCTION SELECT knob again to advance to the next function.
4. Press VIEW after setting the controller to continue with the run mode.

NOTE: By holding the TEST button down for 2 seconds all relays and alarms will be forced ON for 3 minutes. If held during a run cycle they will be forced OFF

C Menu Options

Digital Glycol Feeder Menu Display



Note: Dual digital glycol feeders utilize one controller monitoring two separate pressure switches. The menu will have additional selections for each function. Both pressure readings will be displayed in the run screen:

“P1: 060 P2: 045 PSI”

★ 6.0 PRESSURE AND TEMPERATURE LIMITATIONS

MATERIAL	MAXIMUM SHORT TERM TEMPERATURE	MAXIMUM OPERATING TEMPERATURE	MAXIMUM OPERATING PRESSURE
Polyethylene (PE)	160°F/69°C	85°F/36°C	N/A
Polyvinylchloride (PVC)	140°F/60°C	85°F/36°C	100PSI/6.9BAR
Chlorinated Polyvinylchloride (CPVC)	180°F/77°C	85°F/36°C	100PSI/6.9BAR
Polypropylene (PP)	180°F/77°C	85°F/36°C	100PSI/6.9BAR
Carbon Steel (CS)	200°F/93°C	85°F/36°C	150PSI/10.3BAR
Cast Iron (CI)	200°F/93°C	85°F/36°C	150PSI/10.3BAR
Brass (BR)	200°F/93°C	85°F/36°C	150PSI/10.3BAR
Stainless Steel (SS)	200°F/93°C	85°F/36°C	150PSI/10.3BAR

Note: Minimum Fluid Temperature is 50°F/10°C.

★ 7.0 ROUTINE MAINTENANCE

Routine maintenance in this section is referred to as checking a system once a month until a maintenance schedule can be determined. **All fasteners should be check for proper operations.** Maintenance and care will depend upon the usage and environment in which the glycol feed package is subject to. The following is the suggested regular maintenance checks required to keep the glycol feed system operating properly.

★ 7.1 TANK AND PLUMBING

Periodically check piping, hoses and tank fittings for leaks. Y-strainers and check valves need to be free from debris. Tank should be checked for signs of bulging and cracking.

★ 7.2 GEAR PUMP

The pump should be inspected for proper operation and output. Unusual noises and leaks need to be corrected immediately. Pump assembly and disassembly should only be done by qualified personnel. Wear items, like seal, carbon bearings and gears need to be inspected and replaced when needed. Contact us for assembly and disassembly.

Carbon bearing pumps do not need lubrication. Check the motor for lubrication instructions. Our standard motor does not need lubrication, but some custom motors do. Be sure to check lubrication instructions in pump manual. **DO NOT OVER LUBRICATE.** Oil is conductive and can cause harm or electric shock.

★ 7.3 PRESSURE SWITCH

The only wear item is the contacts. Make sure there are no shorts or wire connections problems.

★ 7.4 PRESSURE RELIEF VALVES

Pressure relief valves need to be free from debris. Disassembling and checking the seating surface for tears and abrasion is all that needed. Improper seating of diaphragm and seal can cause valve leaks.

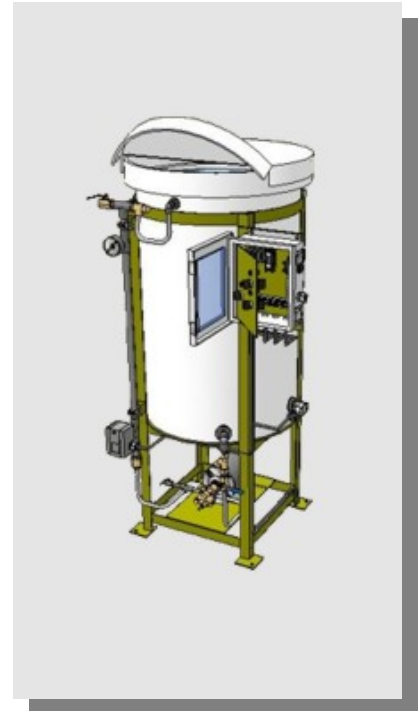
❖ 8.0 PARTS LISTING

In the following diagrams, the systems are shown with tables itemizing parts that may be replaced in the field. If further breakdown is needed, consult manufacturer's operations manual or call us for assistance.

❖ 8.1 GLYCOL SYSTEM OVERVIEW

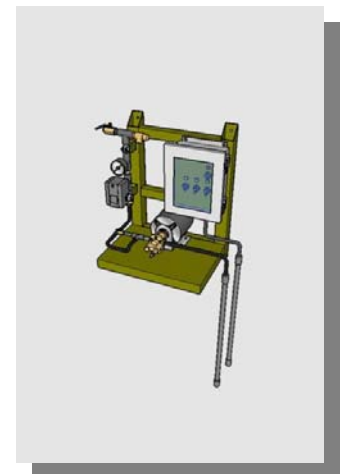
PART	GP_E	GH_H	30	55	100
TANK & COVER	P30C-H	C30C-H	X		
	P55C-H	C55C-H		X	
	P100C-H	C100C-H			X
STAND	TS30B	Included in tank above.	X		
	TS55B			X	
	TS100B				X
DISC. MANIFOLD	0122001	0122010	X		
	0122002	0122011		X	
	0122003	0122012			X
SUCT. MANIFOLD	0122020	0122025	X	X	X
PUMP, 1/3HP	GP1.3E		X	X	X
PUMP, 1/2HP	GP3.0E		X	X	X
SUCT. HOSE	0122030		X	X	X
DISC. HOSE	0122035		X	X	X
RELIEF HOSE	0122040		X	X	X
CONTROL PANEL	GPE		X	X	X
RELIEF ADAPTR	0122050	N/A	X	X	X
PRESSURE SWITCH	PS-1		X	X	X
	PS-2		X	X	X
	PS-3		X	X	X
BALL VALVE	BV05P	BV05B	X	X	X
Y-STRAINER	YS05B		X	X	X
CHECK VALVE	CV05C		X	X	X
RELIEF VALVE	RV05B		x	x	X

Dual models use similar items.



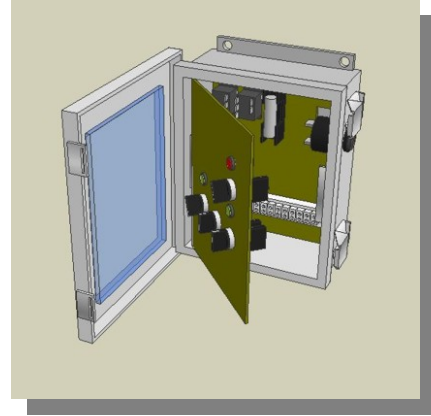
PART	GP_X
FRAME	
DISC. MANIFOLD	0122001
SUCT. MANIFOLD	0122020
PUMP, 1/3HP	GP1.3E
PUMP, 1/2HP	GP3.0E
SUCT. HOSE	
DISC. HOSE	
RELIEF HOSE	
CONTROL PANEL	
RELIEF ADAPTR	0122050
PRESSURE SWITCH	
BALL VALVE	BV05P
Y-STRAINER	YS05B
CHECK VALVE	
RELIEF VALVE	RV05B

Dual models use similar items.



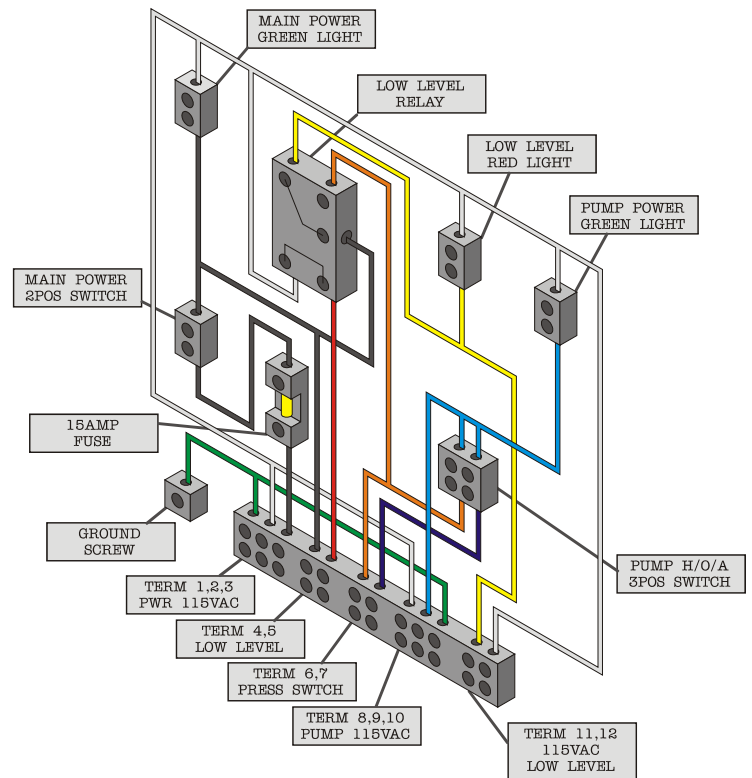
★ 8.2 CONTROL PANELS

PART	INDUSTRIAL
ENCLOSURE	NE-P
POWER SWITCH	SW-2P
PUMP SWITCH	SW-3P
GREEN LIGHT	LGT-G
RED LIGHT	LGT-R
RELAY	RL-1
FUSE	FS-1



★ 9.0 WIRING

The following wiring diagrams are for standard models. A specific electrical diagram including options is located inside the control panel. Custom model may follow similar diagrams, but can be different. See inside of control panel for custom model number, serial number, sales order number and wiring diagram. If you need assistance, contact us and have this information ready.



Note: All standard and optional feature diagrams are available through our website, www.gtpcompany.com or you can e-mail us at literature@gtpcompany.com.

★ 10.0 TROUBLE SHOOTING

PROBLEM	POSSIBLE CAUSE / ACTION
Low flow rate	Piping / equipment is dirty or fouled
	Discharge is restricted or undersized
	Gears are worn
Pump runs, but no fluid	Suction piping is restricted or plugged
	Pump suction valve is closed
	Pump is rotating in the wrong direction
Pressure is low	Line is restricted
	Gears are worn
Pump starts and stops pumping	Gears are worn or fouled
	The suction line may be leaking
	Suction piping is restricted or plugged
Excessive noise while pump is in operation	Pump head and gear may be misaligned
	Pump mounting hardware is loose
	System pressure is excessive
Pump does not shut off at low level	Float switch is faulty, defective or damaged
	Low level relay is faulty, defective or damaged
	Wiring is incorrect or shorted
System does not relieve pressure properly	Pressure relief valve is clogged
	Pressure relief valve is set improperly
Pump cycles on and off repetitively	Piping leak on discharge side
	Pressure settings are not adequate for system size pressure

If you are still having trouble, contact us at repairs@gtpcompany.com, or you can call us at the number on the front of the Instruction manual.

★ 11.0 NOTES

★ 12.0 PRODUCT LABEL

Model:

Serial Number:
