

G-Chem Beam Pump

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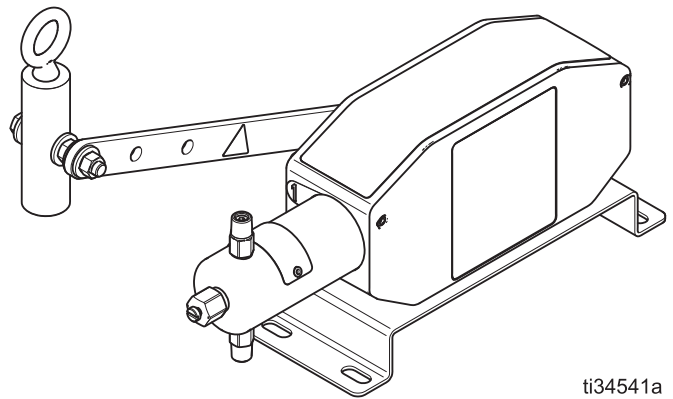
Lever-driven pump for injecting chemicals at well sites. For professional use only.

See page 3 for model information, including maximum working pressure.



Important Safety Instructions

Read all warnings and instructions in this manual before using the equipment. Save all instructions.



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Models and Approvals

G-Chem Beam Pumps

Models	Configuration Number	Plunger Size	Number of Pumps	Seal Material	Maximum Working Pressure psi (MPa, bar)
A23000	CI-NAO-2XF-000-0	1/4 in.	Simplex	FKM	2500 (17.2, 172)
A23001	CI-NAO-3XF-000-0	3/8 in.	Simplex	FKM	1500 (10.3, 103)
A23002	CI-NAO-5XF-000-0	1/2 in.	Simplex	FKM	800 (5.5, 55)
A23003	CI-NAO-2XG-000-0	1/4 in.	Simplex	HNBR	2500 (17.2, 172)
A23004	CI-NAO-3XG-000-0	3/8 in.	Simplex	HNBR	1500 (10.3, 103)
A23005	CI-NAO-5XG-000-0	1/2 in.	Simplex	HNBR	800 (5.5, 55)
A23006	CI-NAO-2XH-000-0	1/4 in.	Simplex	TFE/P	2500 (17.2, 172)
A23007	CI-NAO-3XH-000-0	3/8 in.	Simplex	TFE/P	1500 (10.3, 103)
A23008	CI-NAO-5XH-000-0	1/2 in.	Simplex	TFE/P	800 (5.5, 55)
A23009	CI-NAO-2XJ-000-0	1/4 in.	Simplex	PTFE	500 (3.4, 34)

Fluid Modules

Plunger Size	Maximum Working Pressure psi (MPa, bar)
1/4 in.	2500 (17.2, 172)
3/8 in.	1500 (10.3, 103)
1/2 in.	800 (5.5, 55)

Configuration Number Matrix

Check the identification plate (ID) for the 12-digit Configuration Number of your pump. Use the following matrix to define the components of your pump.

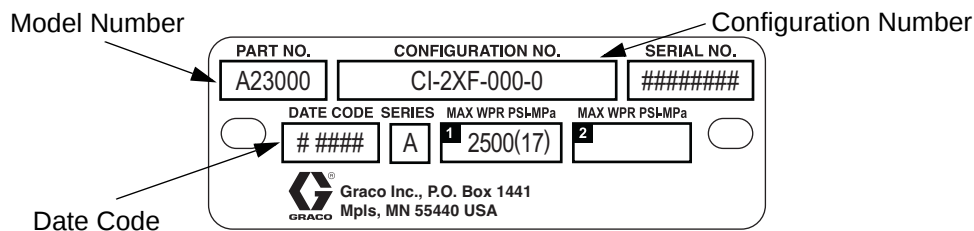


FIG. 1 Example of the G-Chem Assembly Identification Plate

G-Chem Beam Pump Assembly Configuration Code

Sample Configuration Number: CI-12E-2XF-000-0

	Side 1			Side 2			
CI	2	X	F	0	0	0	0
Chemical Injection	Plunger Size	Plunger Coating	Seal Material	Plunger Size	Plunger Coating	Seal Material	Qualifier

Side 1						Side 2							
Plunger Size		Plunger Coating		Seal Material		Plunger Size		Plunger Coating		Seal Material		Qualifier	
2	1/4"	X	Chromex	F	FKM	0	None	0	None	0	None	0	None
3	3/8"			G	HNBR								
5	1/2"			H	TFE/P								
				J	PTFE w/FFKM checks								

Fluid Module Configuration Code

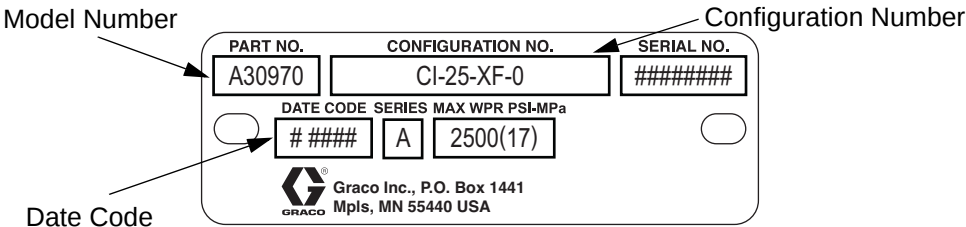


FIG. 2 Example of the Fluid Module Identification Plate

Sample Configuration Number: CI-25-XF-0

CI	25	X	F	0
Chemical Injection	Plunger Size	Plunger Coating	Seal Material	Qualifier

Plunger Size		Plunger Coating		Seal Material		Qualifier	
25	1/4"	X	Chromex	F	FKM	0	None
38	3/8"			G	HNBR		
50	1/2"			H	TFE/P		
				J	PTFE w/FFKM checks		

Warnings

The following warnings are for the setup, use, grounding, maintenance, and repair of this equipment. The exclamation point symbol alerts you to a general warning and the hazard symbols refer to procedure-specific risks. When these symbols appear in the body of this manual or on warning labels, refer back to these Warnings. Product-specific hazard symbols and warnings not covered in this section may appear throughout the body of this manual where applicable.

 WARNING	
 	FIRE AND EXPLOSION HAZARD When flammable fluids are present in the work area be aware that flammable fumes can ignite or explode. To help prevent fire and explosion: • Use equipment only in well ventilated area. • Eliminate all ignition sources, such as cigarettes and portable electric lamps. • Ground all equipment in the work area. • Keep work area free of debris, including rags and spilled or open containers of solvent. • Do not plug or unplug power cords or turn lights on or off when flammable fumes are present. • Use only grounded hoses. • Stop operation immediately if static sparking occurs or you feel a shock. Do not use equipment until you identify and correct the problem. • Keep a working fire extinguisher in the work area.
    	SKIN INJECTION HAZARD High-pressure fluid from dispensing device, hose leaks, or ruptured components will pierce skin. This may look like just a cut, but it is a serious injury that can result in amputation. Get immediate surgical treatment. • Do not put your hand over the fluid outlet. • Do not stop or deflect leaks with your hand, body, glove, or rag. • Follow the Pressure Relief Procedure when you stop dispensing and before cleaning, checking, or servicing equipment. • Tighten all fluid connections before operating the equipment. • Check hoses and couplings daily. Replace worn or damaged parts immediately.
 	MOVING PARTS HAZARD Moving parts can pinch, cut or amputate fingers and other body parts. • Keep clear of moving parts. • Do not operate equipment with protective guards or covers removed. • Pressurized equipment can start without warning. Before checking, moving, or servicing equipment, follow the Pressure Relief Procedure and disconnect all power sources.

WARNING



TOXIC FLUID OR FUMES HAZARD

Toxic fluids or fumes can cause serious injury or death if splashed in the eyes or on skin, inhaled, or swallowed.

- Read Safety Data Sheet (SDS) to know the specific hazards of the fluids you are using.
- Store hazardous fluid in approved containers, and dispose of it according to applicable guidelines.



PERSONAL PROTECTIVE EQUIPMENT

Wear appropriate protective equipment when in the work area to help prevent serious injury, including eye injury, hearing loss, inhalation of toxic fumes, and burns. Protective equipment includes but is not limited to:

- Protective eyewear, and hearing protection.
- Respirators, protective clothing, and gloves as recommended by the fluid and solvent manufacturer.



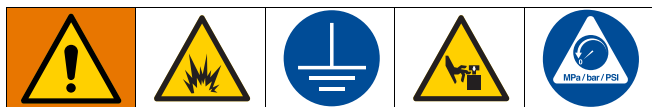
EQUIPMENT MISUSE HAZARD

Misuse can cause death or serious injury.

- Do not operate the unit when fatigued or under the influence of drugs or alcohol.
- Do not exceed the maximum working pressure or temperature rating of the lowest rated system component. See **Technical Specifications** in all equipment manuals.
- Use fluids and solvents that are compatible with equipment wetted parts. See **Technical Specifications** in all equipment manuals. Read fluid and solvent manufacturer's warnings. For complete information about your material, request Safety Data Sheets (SDSs) from distributor or retailer.
- Turn off all equipment and follow the **Pressure Relief Procedure** when equipment is not in use.
- Check equipment regularly. Repair or replace worn or damaged parts immediately with genuine manufacturer's replacement parts only.
- Do not alter or modify equipment. Alterations or modifications may void agency approvals and create safety hazards.
- Make sure all equipment is rated and approved for the environment in which you are using it.
- Use equipment only for its intended purpose. Call your distributor for information.
- Route hoses and cables away from traffic areas, sharp edges, moving parts, and hot surfaces.
- Do not kink or over bend hoses or use hoses to pull equipment.
- Keep children and animals away from work area.
- Comply with all applicable safety regulations.



Installation



To avoid injury due to unexpected moving parts, remove power to the pumpjack and wait for the walking beam to stop moving before performing any task on the G-Chem pump. The G-Chem pump is directly influenced by the motion of the pumpjack's walking beam, and the pump is inactive only when the walking beam is unable to move.

Grounding



The equipment must be grounded to reduce the risk of static sparking. Static sparking can cause fumes to ignite or explode. Grounding provides an escape wire for the electric current.

Pump: grounded through fluid lines.

Fluid lines: use only electrically conductive lines.

Fluid supply container: follow local code.

Accessories

Install the following required accessories in the order shown in a typical installation (see FIG. 3 on page 9) using adapters as necessary.

- **Fluid filter (Y-Strainer) (included in K):** with a 60 mesh (250 micron) stainless steel element to filter particles from the fluid before it reaches the pump.
- **Fluid shutoff valves (L):** shuts off fluid flow.
- **Pressure relief valve (D):** overload protection.

Flush Before Using Equipment

The equipment was tested with lightweight oil, which is left in the fluid passages to protect parts. To avoid contaminating your fluid with oil, flush the equipment with a compatible solvent before using the equipment. See **Flush the Equipment**, page 12.

Typical Installation

FIG. 3 is an example of an installation with a G-Chem chemical injection beam pump. Your installation may differ from what is shown here. (See **Accessories** on page 8.) The G-Chem beam pump (A) and the swivel block (B) are the only components in FIG. 3 supplied by Graco. All other components are supplied by customer.

Key:

- A G-Chem Beam Pump
- B Swivel Block and Eye Bolt
- C Tank
- D Pressure Relief Valve (Required)
- E Inlet Line
- F Outlet Line
- G Pressure Relief Line
- H Inlet Port
- J Outlet Port
- K Manifold Assembly (includes y-strainer and fluid shutoff valve (L))
- L Fluid Shutoff Valve (inlet & outlet) (Required)
- M Pumpjack Base (I-Beam)
- N Cable/Rod/Pipe
- P Walking Beam
- R Beam Clamp

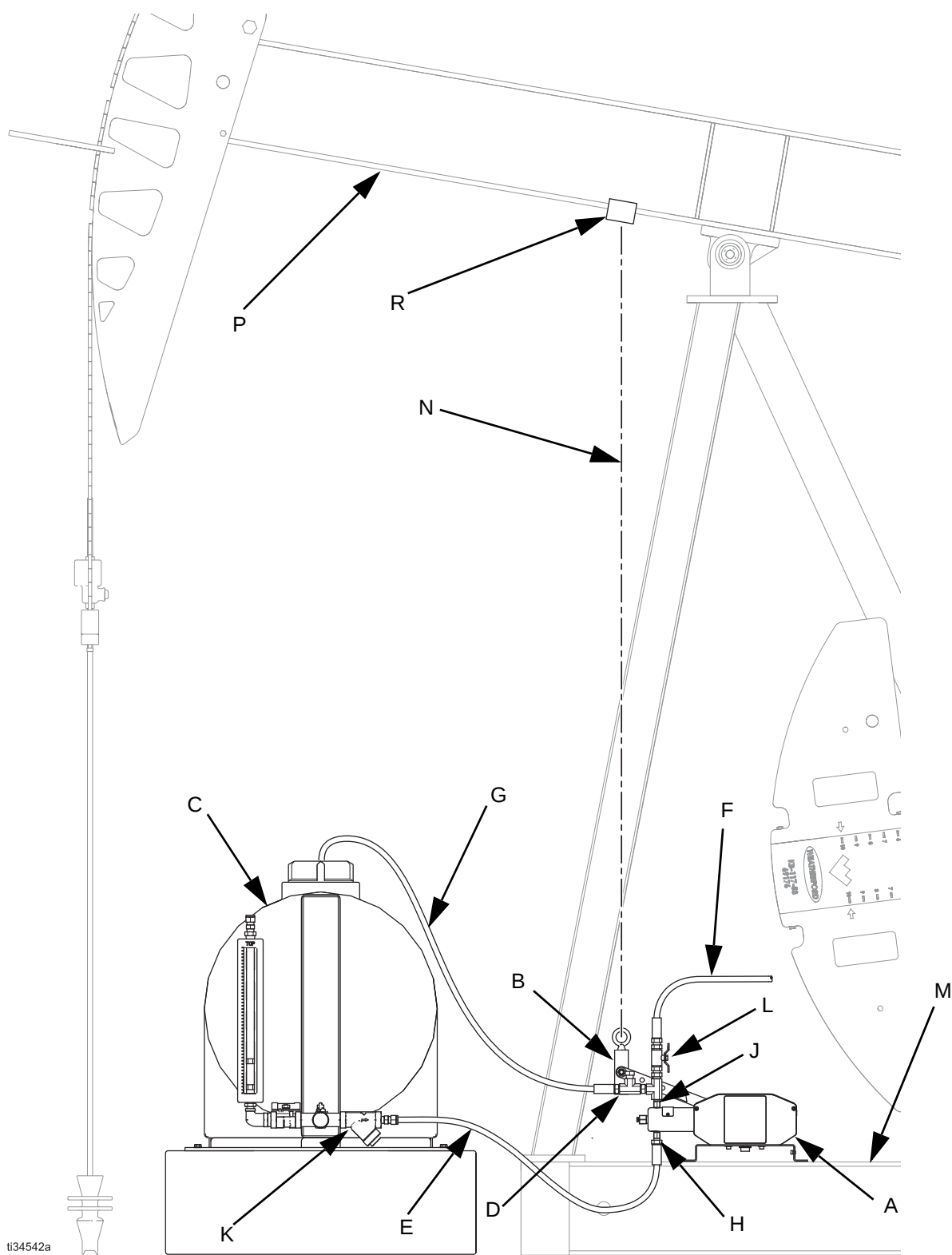


FIG. 3 Typical G-Chem beam pump installation with pumpjack

Pumpjack Connections

1. Remove power to the pumpjack and wait for the pumpjack to stop moving.
2. Attach a cable (N) to the walking beam (P) using a beam clamp (R) or other connection method (both user-supplied).
 - Place the beam clamp (R) on the walking beam (P) where the vertical travel is, at most, 21 in. (53.34 cm), which is the maximum travel of the G-Chem pump's lever arm.
4. Securely clamp or bolt the G-Chem pump (A) to the pumpjack base (M) using the pump's supplied base (112).
 - The G-Chem pump (A) is shipped with the supplied base (112) already attached.
5. Connect the lever arm (122) to the walking beam (P) by routing the end of the cable (N) through the eye bolt (8) on the supplied swivel block (B).
6. Ensure there is no slack in the cable (R) when the G-Chem pump (A) is maximum stroke (setting "1" on the lever arm (122) and "Full" on the stroke adjust). Refer to **Adjust the Pump Stroke** on page 14.

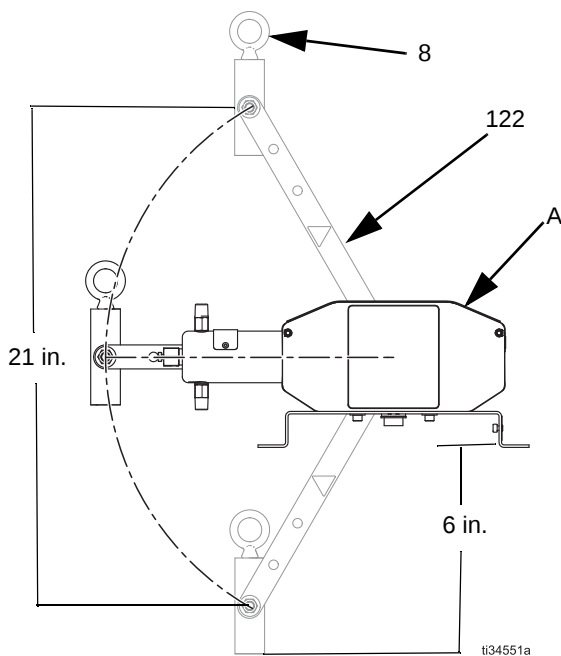


FIG. 4 Lever arm range of travel

3. Position the G-Chem pump (A) on the pumpjack base (M) so that the walking beam (P) provides a straight upward pull as it rises.
 - The lever arm (122) must be able to travel 6 in. below the base of the G-Chem pump (A) to achieve maximum flow.

Fluid Connections

1. With the pumpjack off, remove and discard the caps on the check valves (215 and 216).

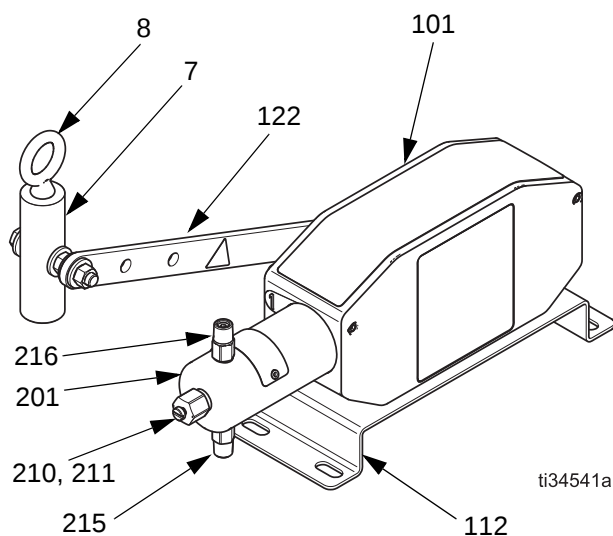


FIG. 5 G-Chem Beam Pump Components

Key:

7	Swivel Block
8	Eye Bolt
101	Drive Housing
112	Mounting Panel
122	Lever Arm
201	Fluid Cylinder
210	Bleed Valve
211	Bleed Needle
215	Inlet Check Valve
216	Outlet Check Valve

2. Connect a 1/4 npt(f) fluid line from the fluid source to the inlet check valve (215).

3. Install a pressure relief valve (D) on the outlet side of the pump. See FIG. 3 on page 9.



In the event of a fluid line blockage, to reduce the risk of skin injection and damage to the pump, ensure the pressure relief valve is set at or below the maximum working pressure of the pump.

4. Set the pressure relief valve at or below the maximum working pressure of the pump.
5. Connect a 1/4 npt(f) fluid line from the outlet check valve (J) to the injection point.

Operation

				
To avoid injury due to unexpected moving parts, remove power to the pumpjack and wait for the walking beam to stop moving before performing any task on the G-Chem pump. The G-Chem pump is directly influenced by the motion of the pumpjack's walking beam, and the pump is inactive only when the walking beam is unable to move.				

Pressure Relief Procedure

 Follow the Pressure Relief Procedure whenever you see this symbol.

				
This equipment stays pressurized until pressure is manually relieved. To help prevent serious injury from pressurized fluid, such as skin injection and splashing fluid, follow the Pressure Relief Procedure when you stop dispensing and before cleaning, checking, or servicing the equipment.				

NOTE: Always discharge fluid into an approved container or location.

1. Remove power to the pumpjack and wait for the pumpjack to stop moving.
2. Shut off the inlet (E) and outlet (F) lines using shut-off valves (L). See FIG. 3 on page 9.
3. Slowly loosen the fitting connected to the outlet check valve (216) to relieve downstream fluid pressure. See FIG. 3 on page 8.
4. Open the bleed needle (211) on the end of the pump cylinder (201) to relieve internal pump pressure.
5. Disconnect and cap the inlet (E) and outlet (F) fluid lines.

Flush the Equipment

				
				
To avoid fire and explosion, always ground equipment and waste container. To avoid static sparking and injury from splashing, always flush at the lowest possible pressure.				

- Check fittings for leaks and tighten as necessary.
 - Flush with a fluid that is compatible with the fluid being dispensed and the equipment's wetted parts.
1. Follow the **Pressure Relief Procedure**.
 2. Disconnect lever arm (122) from the pumpjack.
 3. Connect the inlet check valve (215) to the supply source of the flushing fluid. See FIG. 3 on page 8.
 4. Connect the outlet check valve (216) to a waste reservoir.
 5. Operate the lever arm (122) by hand until the dispensed fluid is predominantly flushing fluid.
 6. Follow the **Pressure Relief Procedure**.
 7. Reconnect the lever arm (122) to the pumpjack. Refer to **Pumpjack Connections**, page 10.

Prime the Pump



NOTICE

To avoid potential damage to equipment, verify that all system valves are open before priming the pump.

1. Remove power to the pumpjack and wait for the pumpjack to stop moving.
2. Disconnect lever arm (122) from the pumpjack.
3. Verify all connections and fluid lines are tight.
4. Verify only the inlet valve (215) is open.
5. Place a chemical compatible bucket under the bleed valve (210).
6. In order to prime the pump, turn the bleed needle (211) counterclockwise.
7. Operate the lever arm (122) by hand to prime the pump.
8. The pump is primed when discharge from the bleed valve (210) has transitioned from air, to bubbly liquid chemical, to pure liquid chemical.
9. Turn the bleed needle (211) clockwise until tight and verify that fluid has stopped draining from the port.
10. Reconnect the lever arm (122) to the pumpjack. Refer to **Pumpjack Connections**, page 10.

Calibrate Chemical Dosage



1. With the pumpjack turned off, set the stroke adjustment of the pump to an estimated setting for the desired flow rate. Refer to **Adjust the Pump Stroke**, page 14, and **Baseline Chemical Dosage Settings**, page 16.
2. Follow the instructions provided with your calibration gauge.
3. Adjust the stroke adjustment accordingly after the test is performed. Increasing the stroke adjustment of the pump will increase the pump flow rate.
4. If a slower flow is desired, slow the pumping rate of the pumpjack, or adjust the orientation of the lever arm by removing the retaining clip (123) at the base of the lever arm (122) and rotating the handle to a different position on the octagonal shaft. This will lengthen or shorten the lever arm stroke.
5. Repeat the instructions provided with your calibration gauge to verify changes.
6. Repeat steps 3 - 5, as necessary, until the desired flow rate is achieved.

Adjust the Pump Stroke

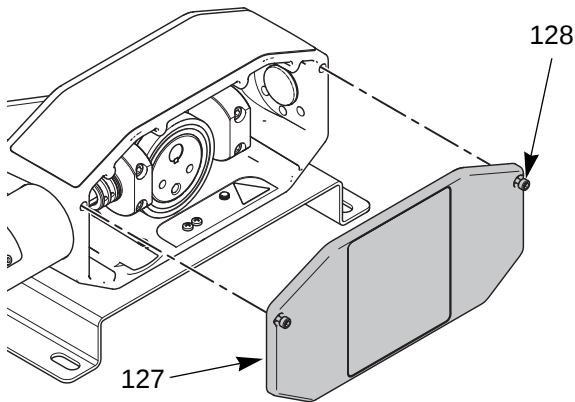


The stroke of the G-Chem pump can be adjusted by a combination of a pin in the pump and the lever arm.

Stroke Adjustment with Pin Settings

The pump has three defined stroke adjustment positions.

1. Follow the **Pressure Relief Procedure** on page 12.
2. Disconnect the G-Chem pump (A) from the pump-jack by removing the swivel block (B) from the lever arm (122).
3. Expose the drive shaft by loosening the fasteners (128) and removing the guard (127). The fasteners are captive and will remain with the guard.

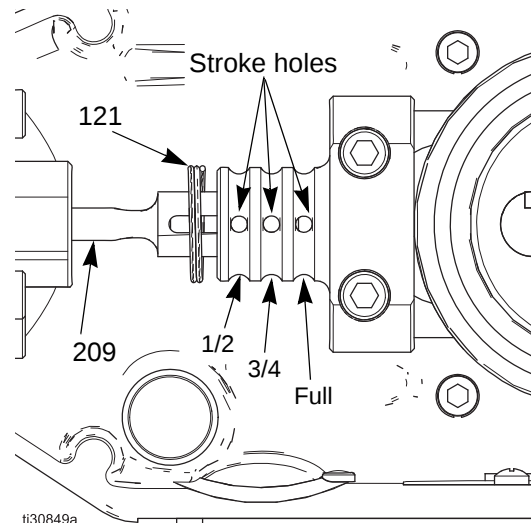


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FIG. 6 Expose the drive shaft

4. Push the split ring (121) left or right to expose the dowel pin (120) in one of the stroke holes.
5. Push out the pin (120) using a screwdriver or punch.

6. Align the desired stroke hole (1/2, 3/4, or Full) with hole in the fluid plunger (209). Use a screwdriver to push in the pin (120).



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FIG. 7 Stroke adjustment - pin positions

7. Push the split ring (121) into place to cover the pin (120).
8. Replace the guard (127) and tighten the fasteners (128).
9. Reconnect the G-Chem pump (A) to the pumpjack by reattaching the swivel block (B) to the level arm (122).

Stroke Adjustment with Lever Arm Settings

The handle has two defined stroke adjustment positions.

1. Follow the **Pressure Relief Procedure** on page 12.
2. Disconnect the G-Chem pump (A) from the pumpjack by removing the swivel block (B) from the lever arm (122).
3. Remove the retaining clip (123) from the lever arm (122) using a flat-blade screwdriver.
4. Remove the lever arm (122) from the shaft (105).
5. Reorient the lever arm (122) so the arrow on the lever arm lines up with either "1" or "2" on the shaft (105).

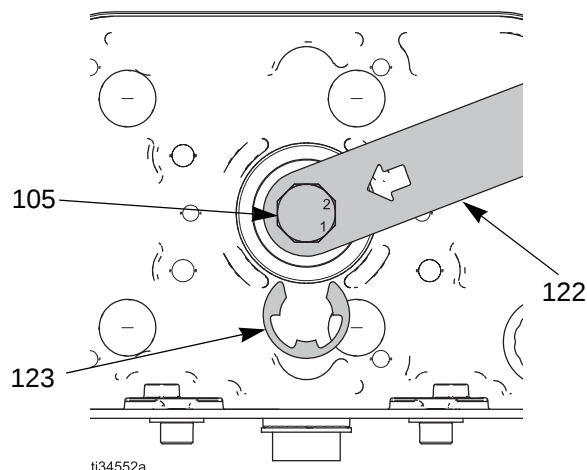


FIG. 8 Stroke adjustment - lever arm positions

6. Reinstall the lever arm (122) in the desired orientation.
7. Reinstall the retaining clip (123) onto the shaft using your fingers or a pair of pliers.
8. Reconnect the G-Chem pump (A) to the pumpjack by reattaching the swivel block (B) to the lever arm (122).

Baseline Chemical Dosage Settings

See **Adjust the Pump Stroke**, page 14, to adjust stroke settings. CPM (cycles per minute) is determined by the pumpjack speed. To use these charts, find the desired flow rate for the plunger size and adjust the pin and lever arm as necessary.

CPM	1/4 in. Plunger			3/8 in. Plunger			1/2 in. Plunger		
	Pin Setting	Lever Setting	Approximate Flow Rate [GPD (LPD)]	Pin Setting	Lever Setting	Approximate Flow Rate [GPD (LPD)]	Pin Setting	Lever Setting	Approximate Flow Rate [GPD (LPD)]
5	3/4	2	0.3 (1.1)	3/4	2	0.7 (2.6)	3/4	2	1.2 (4.5)
	1/2	1	0.5 (1.9)	1/2	1	1.1 (4.2)	1/2	1	1.8 (6.8)
	Full	2	0.6 (2.3)	Full	2	1.5 (5.7)	Full	2	2.6 (9.8)
	3/4	1	0.7 (2.6)	3/4	1	1.6 (6.1)	3/4	1	3.2 (12.1)
	Full	1	1.2 (4.5)	Full	1	2.8 (10.6)	Full	1	5.0 (18.9)
10	3/4	2	0.5 (1.9)	3/4	2	1.3 (4.9)	3/4	2	2.3 (8.7)
	1/2	1	1.0 (3.8)	1/2	1	2.2 (8.3)	1/2	1	3.6 (13.6)
	Full	2	1.2 (4.5)	Full	2	2.9 (11.0)	Full	2	5.1 (19.3)
	3/4	1	1.5 (5.7)	3/4	1	3.2 (12.1)	3/4	1	6.5 (24.6)
	Full	1	2.5 (9.5)	Full	1	5.7 (12.6)	Full	1	10.0 (37.9)
15	3/4	2	0.8 (3.0)	3/4	2	2.0 (7.6)	3/4	2	3.5 (13.2)
	1/2	1	1.4 (5.3)	1/2	1	3.3 (12.5)	1/2	1	5.4 (20.4)
	Full	2	1.8 (6.8)	Full	2	4.4 (16.7)	Full	2	7.7 (29.1)
	3/4	1	2.2 (8.3)	3/4	1	4.8 (18.2)	3/4	1	9.7 (36.7)
	Full	1	3.7 (14.0)	Full	1	8.5 (32.2)	Full	1	15.0 (56.8)

NOTE: Not all stroke adjustment combinations are possible.

Maintenance

Preventive Maintenance Schedule

The operating conditions of your particular pump determine how often maintenance is required. Establish a preventive maintenance schedule by recording when and what kind of maintenance is needed, and then determine a regular schedule for checking your pump.

Tighten Threaded Connections

Check that all threaded connections are tight at routine intervals.

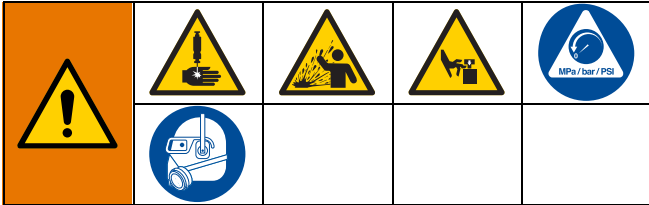
Tighten Packings

The packings included in your pump have the ability to be adjusted to stop leaks that develop when the seals are worn. If a leak develops in the pump's fluid section, tighten the packing nut clockwise by 1/16th of a turn, or lower, until the leak is eliminated. The life of the packing can be affected by over-tightening the packings. If the packing nut needs to be tightened repeatedly after short intervals, replace the packing.

Storage

If the pump is going to be stored for long periods, it is recommended that the pump be flushed with a light-weight oil or rust prohibiter to protect pump components. Store the pump with protective fluid inside whenever possible.

Troubleshooting



1. Follow **Pressure Relief Procedure**, page 12, before checking or repairing the pump.
2. Check all possible problems and causes before disassembling the pump.

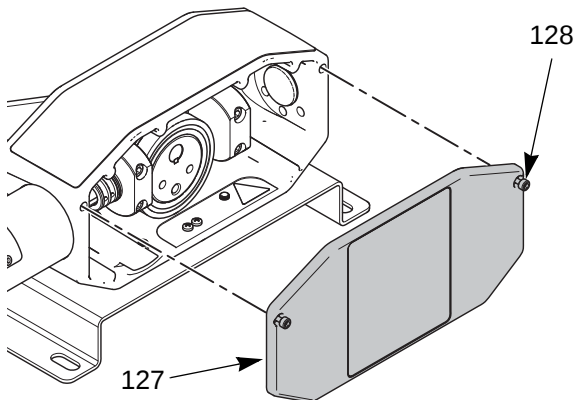
Problem	Cause	Solution
Air bubbles in fluid	Suction line is loose	Tighten suction line
Fluid leaking	Loose fittings	Tighten fittings
	Worn or damaged seals and/or packing	Adjust or tighten seals and/or packing. If leak persists, replace seals and/or packing.
Lever arm moving, but fluid not moving	Pump stalled	Check pump for contamination
	Air in pump	Prime pump
	Worn or damaged check valve seals	Replace inlet and outlet check valves

Repair



Pump Repair

1. Remove power to the pumpjack and wait for the pumpjack to stop moving.
2. Follow the **Pressure Relief Procedure**.
3. Disconnect lever arm (122) from the pumpjack.
4. Expose the drive shaft by loosening the fasteners (128) and removing the guard (127). The fasteners are captive and will remain with the guard.



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FIG. 9 Expose the drive shaft

5. Remove the screws (3) and slide the fluid cylinder away from the drive housing (101).

NOTE: The plunger (209) will stay within the drive housing (101) unless the dowel pin (120) is removed. The dowel pin is held in place by a split ring that can be push aside to free the pin. It is not necessary to remove the plunger (209) unless it is damaged and needs to be replaced.

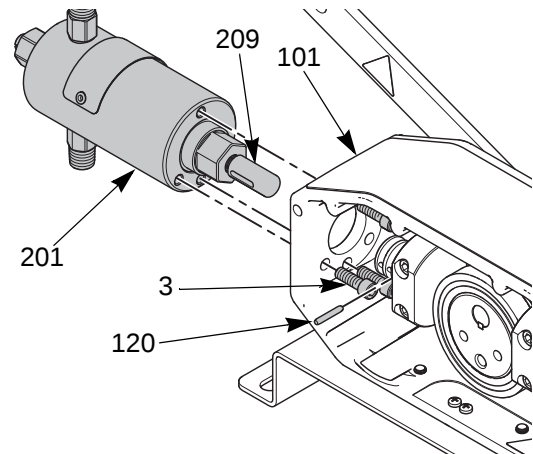


FIG. 10 Disconnect the fluid cylinder

6. Remove packing nut (207) from fluid cylinder (201).

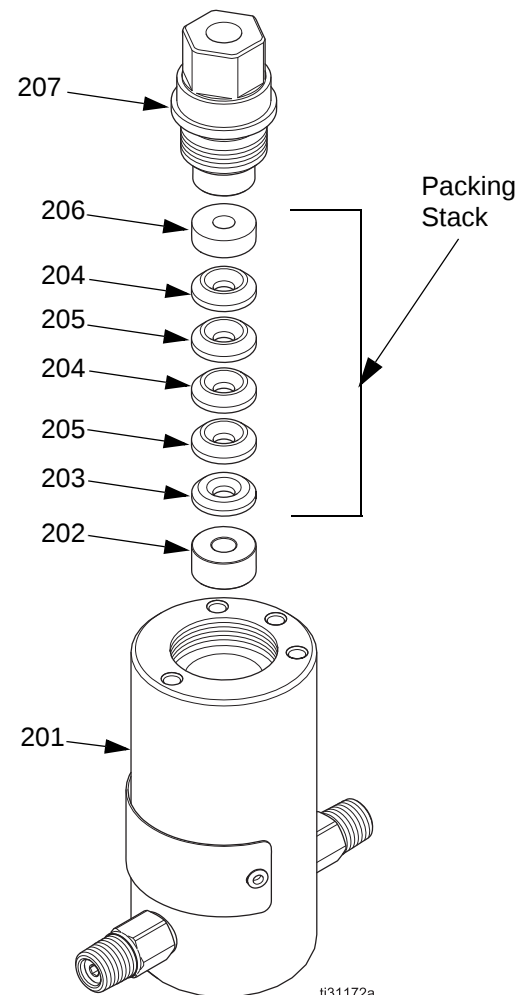


FIG. 11 G-Chem Pump Repair

7. Carefully remove the packing stack (203-206) and the spacer (202) from the fluid cylinder (201).
8. Replace the packing stack (203-206). Inspect the spacer (202) and replace, if necessary. Lubricate prior to reassembly.
9. Replace the packing nut (207) assembly into fluid cylinder. Tighten until hand tight and the flange of the packing nut (207) is below the surface of the fluid cylinder (201).
10. Slide the fluid cylinder (201) onto the plunger (209) and use the screws (3) to attach the fluid cylinder (201) to the drive housing (101).

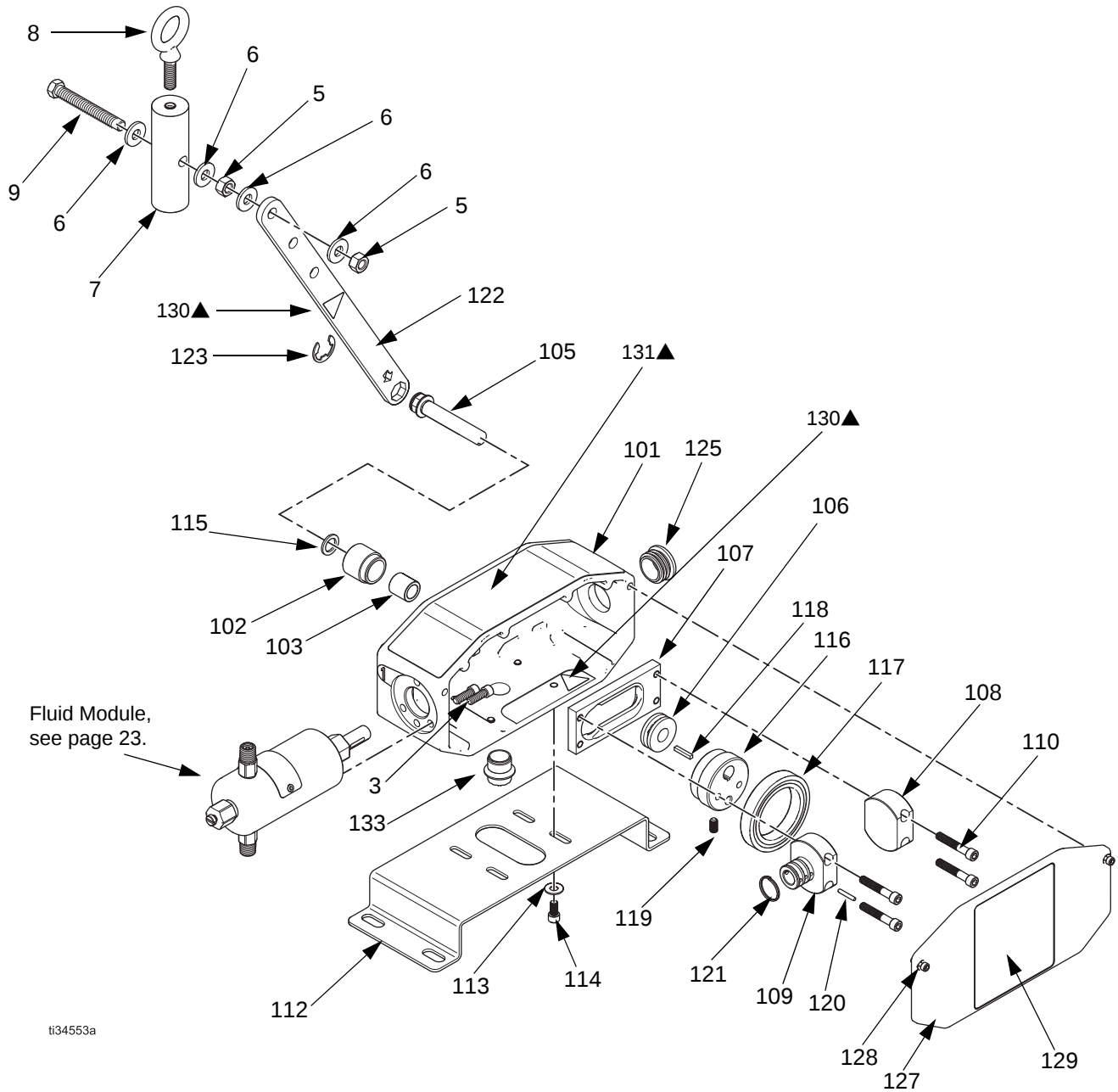
NOTE: Install the plunger (209) first if it was removed, and secure it with the dowel pin (120) and split ring (121). Refer to **Stroke Adjustment with Pin Settings**, on page 14, for specific placement of the pin (120) and ring (121).

11. Replace the guard (127) and tighten the fasteners (128).

Parts

G-Chem Beam Drive Module

Configuration CI-2XF-000-0 shown



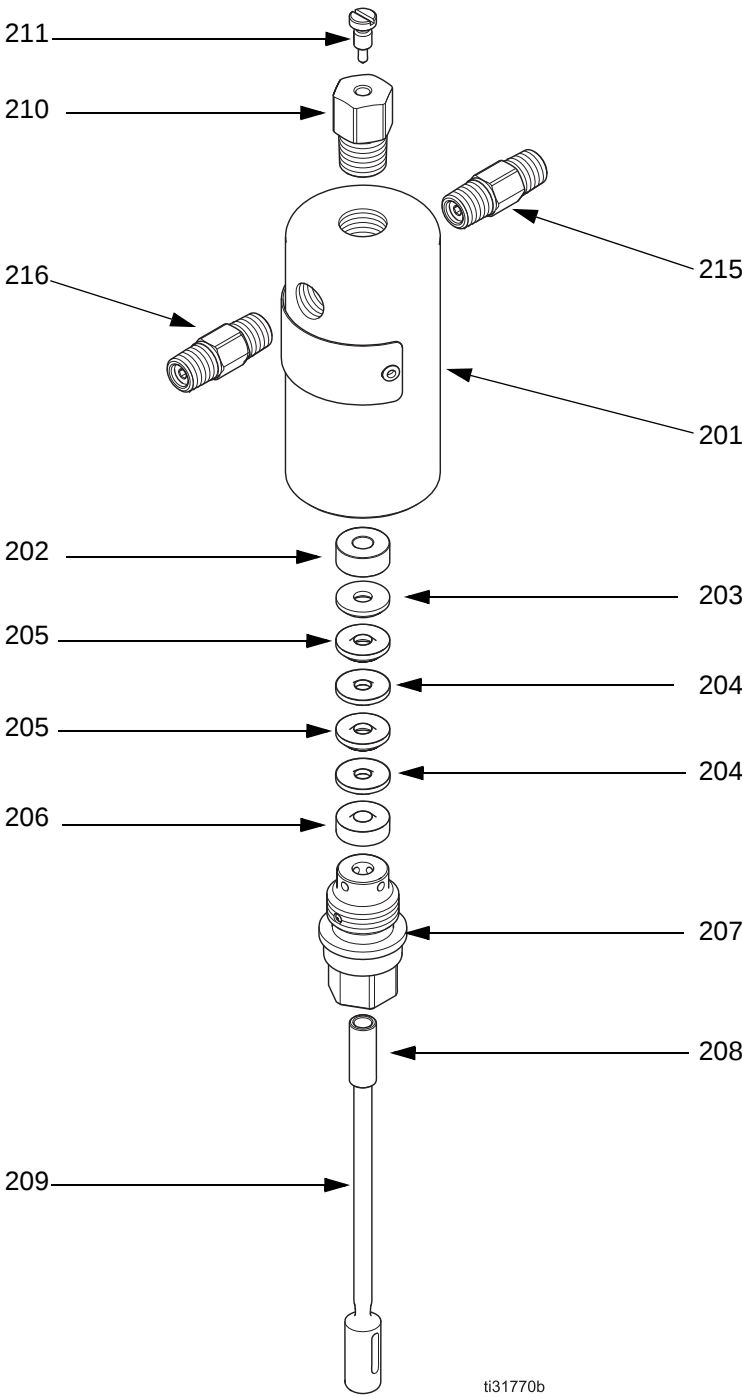
G-Chem Drive Module Parts List

Ref.	Part	Description	Qty
3	100644	Screw, socket head cap	3
5	--	Nut, hex	2
6	--	Washer, flat	4
7	--	Block, swivel	1
8	--	Bolt, eye	1
9	--	Screw, hex head cap	1
101	--	Housing, drive	1
102	--	Bearing, retainer	1
103	--	Bearing, sleeve	1
105	--	Shaft	1
106	B32708	Bearing, CIP carriage	1
107	--	Carriage, plunger return	1
108	B32711	Block, plunger return	1
109	--	Adjuster, stroke	1
110	15B588	Screw, socket head cap; included with plunger return block (ref 108)	4
112	B32949	Panel, mounting	1
113	115814	Washer, flat; included with mounting panel (ref 112)	4
114	--	Fastener, SCHS; included with mounting panel (ref 112)	4
115	--	Washer, plastic shaft	1
116	B32708	Cam, eccentric, CIP	1
117	--	Deep Groove Ball Bearing, included with CIP eccentric cam (ref 116)	1
118	--	Key, square; included with CIP carriage bearing (ref 106) and CIP eccentric cam (ref 116)	1
119	--	Screw, set	1
120	B32268	Pin, dowel	1
121	--	Ring, split; included with dowel pin (ref 120)	1
122	--	Arm, shaft lever	1
123	--	Clip, shaft retaining	1
125	--	Plug, Simplex	1
127	B32787	Guard	1

Ref.	Part	Description	Qty
128	--	Screw, captive; included with guard (ref 127)	2
129	--	Label, branding; included with guard (ref 127)	1
130▲	15H108	Label, pinch warning safety	3
131▲	17G318	Label, multiple warning safety	1
133	--	Cap Plug, threaded	2

▲ Replacement Danger and Warning labels, tags, and cards are available at no cost.

G-Chem Beam Fluid Module



G-Chem Fluid Module Parts List

Ref.	Part	Description	Qty
201	See Kits and Accessories, page 25	Cylinder, fluid	1
202	--	Spacer, packing nut	1
203	See Table 1	Adapter, male, vee stack	1
204	See Table 1	Packing, vee, plastic	2
205	See Table 1	Packing, vee, rubber	2
206	See Table 1	Adapter, female, vee stack	1
207	See Table 2	Nut, packing	1
208	--	Bearing, sleeve; included with packing nut (ref 207)	1
209	See Table 3	Plunger	1
210	B32872	Valve, bleed; includes bleed needle (ref 211)	1
211	17F572	Needle, bleed	1
215	B32733	Valve, inlet check; FKM	1
	B32735	Valve, inlet check; HNBR	1
	B32857	Valve, inlet check; TFE/P	1
	B32279	Valve, inlet check; FFKM	1
216	B32734	Valve, outlet check; FKM	1
	B32736	Valve, outlet check; HNBR	1
	B32858	Valve, outlet check; TFE/P	1
	B32280	Valve, outlet check; FFKM	1
217	--	Nylon Ball, included with packing nut (207)	1

Table 1: Packing Kit (includes ref. 203 - 206)

	Part Numbers by Fluid Plunger Size Diameter			
Ref	1/4 in.	3/8 in.	1/2 in.	Qty.
FKM				
203 - 206	B32784	B32782	B32780	1
HNBR				
203 - 206	B32785	B32783	B32781	1
TFE/P				
203 - 206	B32854	B32855	B32856	1
PTFE				
203 - 206	B32978	--	--	1

Table 2: Packing Nut

Ref	Part Numbers by Fluid Plunger Size Diameter			Qty.
	1/4 in.	3/8 in.	1/2 in.	
207	B32776	B32775	B32774	1

Table 3: Fluid Plunger

Ref	Part Numbers by Fluid Plunger Size Diameter			Qty.
	1/4 in.	3/8 in.	1/2 in.	
Chromex-Coated 17-4 Stainless Steel				
209	B32779	B32778	B32777	1

Kits and Accessories

G-Chem Beam Pump

Part No.	Description
B32045	225-750 PSI Pressure Relief Valve Kit
B32046	750-1500 PSI Pressure Relief Valve Kit
B32047	1500-2250 PSI Pressure Relief Valve Kit
B32048	2250-3000 PSI Pressure Relief Valve Kit
A30970	1/4" FKM: Chromex Fluid Module*
A30971	1/4" HNBR: Chromex Fluid Module*
A30980	3/8" FKM: Chromex Fluid Module*
A30981	3/8" HNBR: Chromex Fluid Module*
A30990	1/2" FKM: Chromex Fluid Module*
A30991	1/2" HNBR: Chromex Fluid Module*
A30973	1/4" PTFE: Chromex Fluid Module*
B32983	Shaft Kit (includes ref. 115, 105, and 122)
B32984	Lever Arm Kit (includes ref. 122, 123, and 130)
B32985	Counterweight Kit (includes ref. 5, 6, 7, 8, and 9)
B33072	Beam Attachment Kit (includes ref. R and 8)
B33066	Extra weight kit (includes ref. 5,6,7, and 9)F

* Includes ref. 6, 201-211, 215, and 216

Dimensions

G-Chem Beam Pump Dimensions

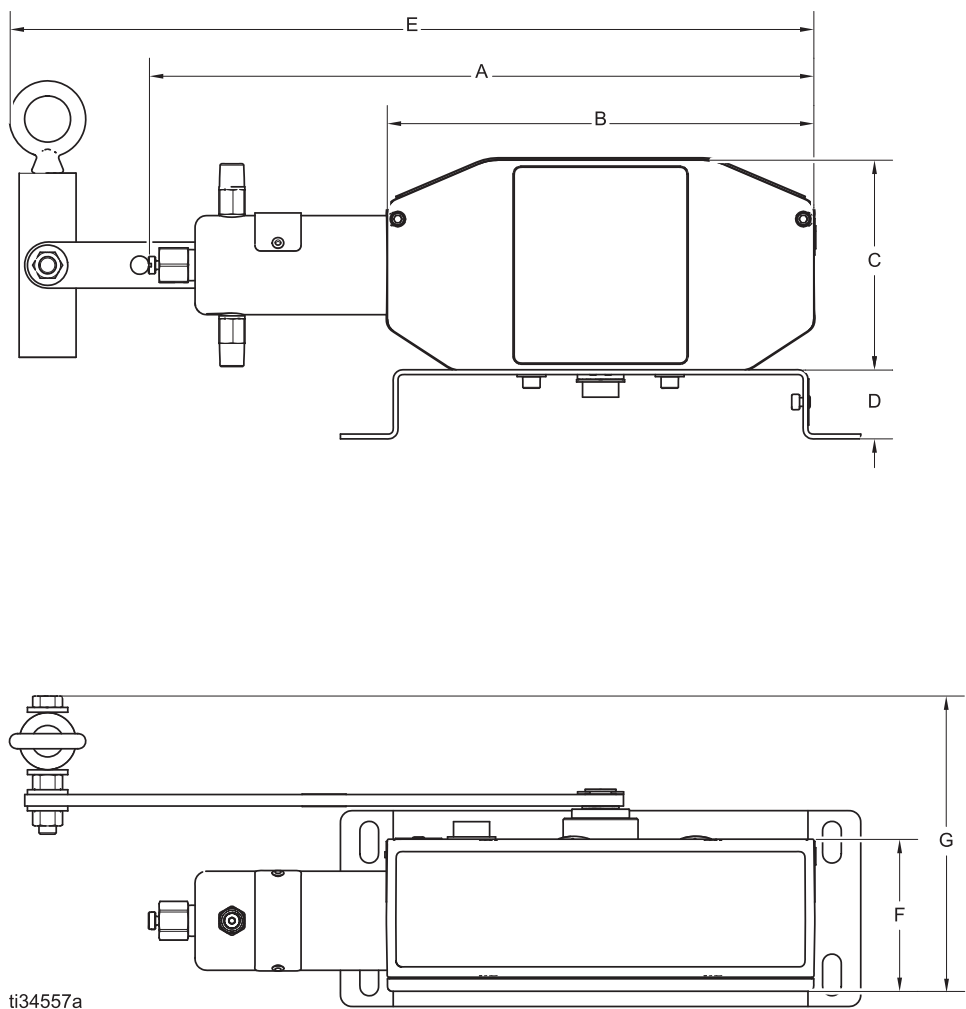


FIG. 12 G-Chem Pump Dimensions

A	B	C	D	E	F	G
13.8 in. (35.1 cm)	9.3 in. (23.6 cm)	4.6 in. (11.7 cm)	7.4 in. (18.8 cm)	18.4 in. (46.7 cm)	3.3 in. (8.4 cm)	12.7 in. (32.3 cm)

Technical Specifications

G-Chem Chemical Injection Pump		
	US	Metric
Maximum fluid working pressure	Varies by model. See Models and Approvals on page 3.	
Environmental temperature range, ordinary location	-40°–131°F	-40°–55°C
Noise (dBa)		
Maximum sound pressure	<70 dBa	
Inlet/Outlet Sizes		
Fluid inlet size	1/4 in. npt(m)	
Fluid outlet size	1/4 in. npt(m)	
Materials of Construction		
Pump/Check Valve Seal Material	See Configuration Chart on page 4 for seal material. All other packing materials are UHMWPE and PTFE unless otherwise noted.	
Wetted Parts	See Configuration Chart on page 4 for plunger material. All other materials are 303 and 316 stainless steel unless otherwise noted.	
Weight		
G-Chem,1 pump	14.8 lb.	6.7 kg

California Proposition 65

CALIFORNIA RESIDENTS



WARNING: Cancer and reproductive harm. – www.P65warnings.ca.gov.

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