

INSTRUCTION MANUAL

M E T E R I N G P U M P S

LINC84T-10, 11, 12, & 14 Series Chemical Metering Pump
Pneumatic Plunger



METERING PUMPS

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General Specifications: 84T-10, 11, 12 & 14 Series Pneumatic Metering Pumps

Wetted Parts:

Pump Body:	316 ss
Plunger:	17-4 PH ss or Ceramic
Plunger Seal:	Refer to Ordering Chart

Check Valves :

Body:	316 ss
Ball:	440C ss or Carbide
Spring - Discharge:	316 ss
Seat:	See Check Valve Parts List

Pneumatic Section:

Piston Housing:	303 ss
Timer:	303 ss

Plunger Sizes: 3/16", 1/4", 1/2" & 1" plunger R diameters

Pressure: To 10,000 psi, maximum

Optional Materials: 316 ss, Hastelloy, Monel, & Titanium

The LINC 84T-10, 11, 12 & 14 Series: Pneumatic, Plunger-Type Metering Pump Selection Chart

Model Number	Plunger Diameter	Piston Diameter	Maximum Rate Gal/Hr	Maximum Rate Liter/Hr	Minimum Rate Gal/Hr	Minimum Rate Liter/Hr	Maximum Pressure psi ⁵	Maximum Pressure bar	Amp. Ratio	Strokes Per Minute	Volume Per Stroke cc	Stroke Length
3/16" Plunger with Timer												
84T-10-x1	3/16"	2 1/4"	0.32	1.21	0.002	0.015	10,000	689	125:1	4 - 60	0.34	1"
1/4" Plunger with Timer												
84T-11-x1	1/4"	2 1/4"	0.76	2.88	0.01	0.038	6,370	439	75:1	4 - 60	0.80	1"
84T-11-x2	1/4"	3"	0.64	2.42	0.01	0.038	10,000	689	120:1	4 - 50	0.80	1"
1/2" Plunger with Timer												
84T-12-x2	1/2"	3"	2.5	9.5	0.03	0.10	2,550	176	30:1	4 - 50	3.2	1"
84T-12-x4	1/2"	4"	1.5	5.7	0.03	0.10	5,100	352	60:1	4 - 30	3.2	1"
1" Plunger with Timer												
84T-14-x4	1"	4"	5.1	19.3	0.20	0.77	1,190	82	14:1	4 - 25	12.8	1"

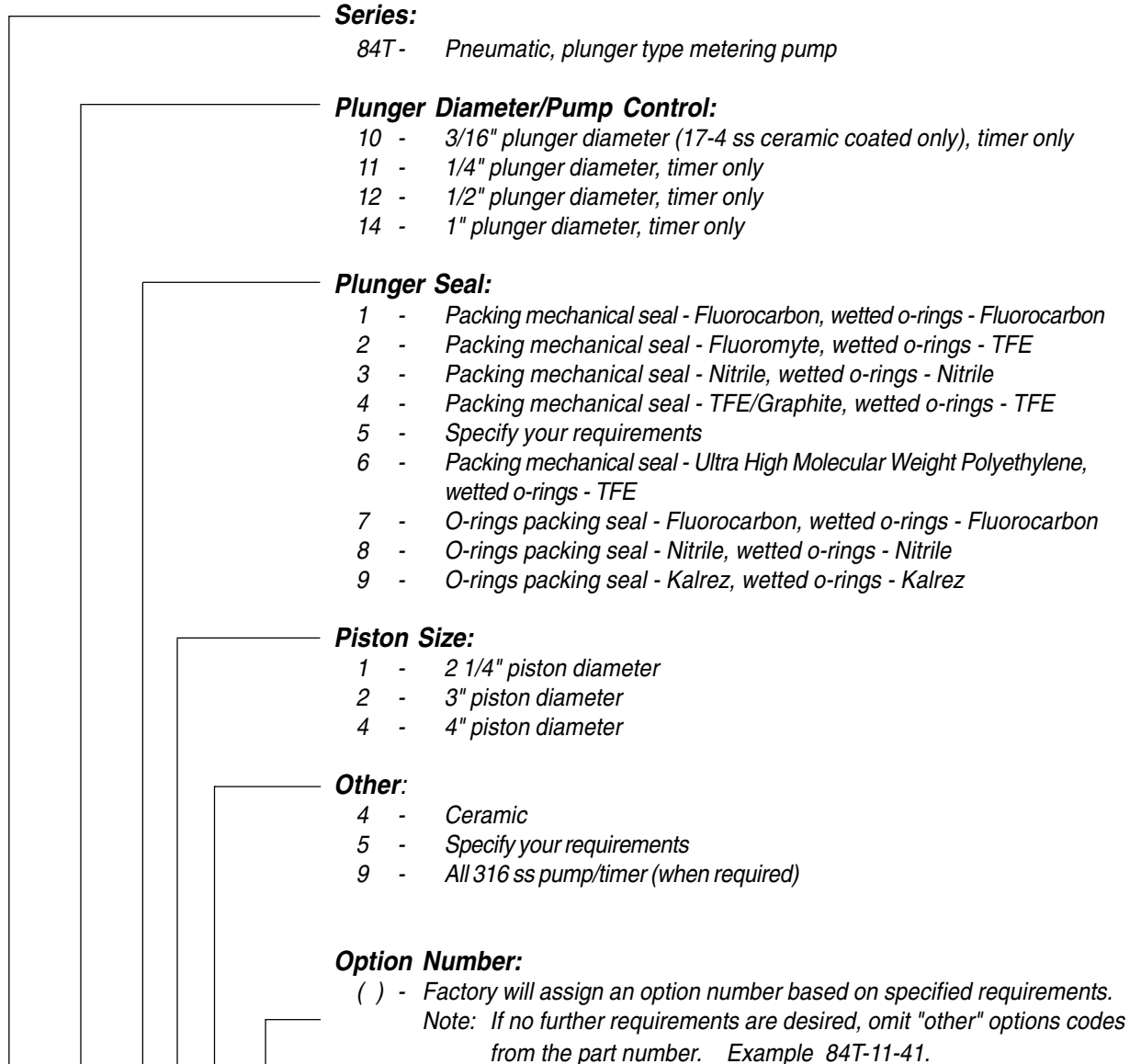
Notes:

- Maximum rates are based on maximum strokes per pump.
- Minimum rates are calculated as follows:
3/16", 1/4" and 1/2" plunger pumps are 1/4" stroke length and a minimum of 4 strokes per minute.
1" plunger pumps are 1/4" stroke length and a minimum of 4 strokes per minute.
- The timer supply pressure is 15 to 110 psi.
- When creating a Model Number using the Ordering Chart, the "X" in the Model Number column above will be replaced by a single digit representing the plunger seal selection. The plunger seal is shown in the Ordering Chart.
- Maximum pressure based on 100 psi supply pressure.
- Volume per stroke in shown for maximum pressure and strokes per minute. Volume per stroke increases as discharge pressure decreases.

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Ordering Chart: LINC 84T-10, 11, 12 & 14 Pneumatic Plunger Metering Pump



LINC 84T-____-____()

Example: LINC 84T-11-41 Pneumatic Metering Pump

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P N E U M A T I C P L U N G E R

Important: Amplification Ratio:

For best results and longer pump life, it is recommended that a pressure regulator be used upstream of the pump timer to properly adjust the supply pressure. The supply to the pump timer should be a minimum of 15 psig and a maximum of 110 psig. Check the "Selection Chart" at the front of this manual for the Amplification Ratio for the pump being used.

How to Determine Desired Supply Pressure:

Assuming a process line pressure of 1000 psig, simply divide this pressure by the amplification ratio to determine the minimum required air or gas pressure. In the case of the Model 84T-12-x2 where the amplification ratio is 30:1 (which indicates that for each 1 psig of supply pressure the pump can produce 30 psig of discharge pressure) divide 1000 by 30 equals 33 psig. In practice, the regulator should be set approximately 15 psig greater than the calculated value to ensure positive injection of the chemical. This would provide a regulator setting of $33 + 15 = 48$ psig. Proper air or gas pressure will provide longer pump life and reduce maintenance.

Note: Do not exceed maximum discharge pressure of the pump as shown in the "Selection Chart" at the front of this manual.

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PNEUMATIC PLUNGER

Scope Of This Manual:

This manual describes and provides instructions and parts list for the LINC84T-10, 11, 12 & 14 Series Chemical Metering Pump. This pump is a pneumatically operated plunger pump.

1. Figure 1 of this manual is the sectional drawing and parts list for the LINC84T-10, 11 & 14 Chemical Metering Pump.
2. Figure 2 of this manual is the sectional drawing and parts list for the LINC84T-12 Chemical Metering Pump.

Installation:

The LINC84T-10, 11, 12 & 14 require a flooded suction and must be located lower than the chemical supply tank. Vertical installation of the piston housing is required.

1. Connect the suction line through a filter or strainer to the suction check valve (fig. 1, item 17 or fig. 2, item 16).
2. Connect the discharge line to the desired location.

Note: An in-line check valve at the point of injection is recommended to prevent back flow to the pump during shutdown or servicing.

3. Connect a supply pressure line to the timer (fig. 1, item 1 or fig. 2, item 1). Air is the recommended supply; however, any dry filtered gas may be used. The supply pressure to the timer must be regulated between 15 psig and 110 psig.

4. Set the regulator to the proper pressure to overcome the discharge pressure required by the pump. Refer to the paragraph on "Amplification Ratio" in this manual to determine the correct supply pressure.
5. To prime the pump, loosen the bleed screw (fig. 1, item 18 or fig. 2, item 18). Allow the liquid (chemical) to flow into the pump chamber, venting the trapped air or gas. Tighten the bleed screw.
6. Start the pump and run for a minimum of one minute. Open the bleed screw again and evacuate all the remaining air or gas from the pump chamber.
7. Using a rate gauge, set the desired pumping rate by adjusting the timer knob and stroke adjustment screw. The timer can be set to stroke the pump from 4 strokes/minute to the maximum rate for the particular pump being used. See selection chart in this section of the manual.
8. The stroke length is adjusted by rotating the stroke adjustment screw (fig. 1, item 5 or fig. 2, item 4) on top of the piston housing (fig. 1, item 8 or fig. 2, item 6). Loosen the jam nut and adjust the stroke adjustment screw as necessary (fig. 1, item 4 or fig. 2, item 5). Lock down the jam nut after any adjustments are made.

Note: The minimum stroke on the 84T-10, 11 & 12 is 1/8" and 1/4" on the 84T-14.

Maintenance:

Refer to all sectional drawing and parts list in this manual. All repairs should be performed in a clean environment.

The following steps must be taken before proceeding with any maintenance operations:

Removing the Pump from Service:

1. Rotate the control knob on the timer to the "O" position.
2. Disconnect the supply pressure from the timer.
3. Close the upstream and downstream valves on the chemical lines.
4. Open the bleed screw to release the pressure in the pump.
5. Disconnect the suction and discharge lines from the check valves.

Timer, Figure 1, item 1 or Figure 2, item 1 & Figure 3:

1. Disconnect the supply pressure from the timer.
2. Rotate the timer counter-clockwise on the pipe nipple that connects it to the piston housing until the timer is vertical with the supply pressure port pointing down.
3. Loosen and remove the two screws from the timer (fig. 3, item 1).

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4. Separate the three timer sections and discard the seal, diaphragm and the disc (fig. 3, items 4, 6 & 15). Be careful not to lose the small disc spring (fig. 3, item 16). Note the orientation of the diaphragm as it is removed.
5. Loosen the set screw on the knob (fig. 3, item 11). Remove the knob and knob spring (fig. 3, item 9).
6. Unscrew the adjustment screw (fig. 3, item 10) from the front body (fig. 3, item 13). Remove and discard the o-ring (fig. 3, item 12).
7. Reassemble the timer in reverse order of the above steps, using new rubber parts. Lubricate the adjustment screw threads and its o-ring. No other lubrication is required.
8. After installing the adjustment screw, turn it in by hand without the knob installed until it lightly seats. During this operations do not over-tighten the adjustment screw into its seat. Apply supply pressure to the timer and unscrew the adjustment screw slowly until the pump starts to run. Trial and error will be necessary to determine the proper orientation of the knob on the adjustment screw. Once the proper orientation is determined, re-install the knob spring and knob.

Suction Check Valve,

Figure 1, item 17 or Figure 2, item 16 & Figure 6:

1. Disconnect the piping from the check valve.
2. Unscrew the check valve body from the pump (fig. 6, item 1).
3. Remove and discard the o-rings (fig. 6, items 3 & 4).
4. Inspect the ball for damage (fig. 6, item 2). Replace if necessary. Reassemble the check valve using new o-rings. If the seat o-ring is Teflon, install it onto the check valve body and "peen" the ball into the seat to ensure proper sealing (fig. 6, item 3).
5. Install the repaired suction check valve into the pump body. Tighten securely.

Discharge Check Valve,

Figure 1, item 16 or Figure 2, item 15 & Figure 4:

1. Disconnect the piping from the check valve.
2. Unscrew the check valve body from the pump (fig. 4, item 1).
3. Remove and discard the o-rings (fig. 4, items 4 & 5).
4. Inspect the ball and spring for damage (fig. 4, items 2 & 3). Replace if necessary. Reassemble the check valve using new o-rings. If the seat o-ring is Teflon, install it into the pump body assembly and "peen" the ball onto the seat to ensure proper sealing.

5. Install the repaired discharge check valve into the pump body. Place the ball on the o-ring seat followed by the spring (small end of the spring toward the ball) and screw the discharge check valve body into the pump body assembly. Tighten securely.

Discharge Check Valve,

Two-Piece, Model 84T-14 only, Figure 1, item 16 & Figure 5:

1. Separate the two halves of the check valve (fig. 5, items 1 & 4).
2. Replace the o-rings, ball and spring as required (fig. 5, items 2, 3, 5 & 6). The Teflon o-ring may be removed, turned around and reused if a new o-ring is not available (fig. 5, item 2). During this procedure extreme care should be exercised. The ball should be "peened" on the Teflon seat to ensure proper sealing (fig. 5, items 1, 2 & 5).
3. Ensure that the proper flow direction, as marked on the valve body is observed when installing or replacing this check valve.

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Piston/Plunger:

1. Secure the pump body assembly in a vise (fig. 1, item 19 or fig. 2, item 17).
2. Remove the piston housing screws (fig. 1, item 11 or fig. 2, item 10). Grasp the piston housing and pull up to remove (fig. 1, item 8 or fig. 2, item 6).
3. Grasp the piston and pull away from the pump body assembly to remove (fig. 1, item 6 or fig. 2, item 7). Inspect the plunger for wear, especially longitudinal grooves. Replace the piston assembly if necessary. Inspect the piston u-cup (fig. 1, item 7 or fig. 2, item 8). Replace if necessary.
6. Remove the spring, lubricant seal back-up and lubricant seal from the spring cavity (fig. 1, items 9, 12, & 13 or fig. 2, items 9, 11 & 12). Inspect all three parts, especially the lubricant seal and replace worn or damaged parts as needed.

Plunger Seal, Figure 1, item 15 or Figure 2, item 14:

1. With a pipe or strap wrench, separate the pump body assembly (fig. 1, item 19 or fig. 2, item 17).
2. Remove the seal back-up and plunger seal (fig. 1, item 15 or fig. 2, item 14) from the lower housing of the pump body assembly. Note that on Model 84T-12, the

plunger seal and plunger seal backup are in the upper housing of the pump body assembly (fig. 2, items 14). Carefully remove the seal back-up and seal. Inspect for wear or deterioration from being attacked by the chemical the pump is pumping.

3. Replace the plunger seal. If needed, also replace the plunger seal back-up. Extreme care should be taken not to scratch or distort these parts.

Reassemble the Pump:

1. Lubricate the piston u-cup and plunger with light oil to protect against possible damage during assembly.
2. Reassemble the piston/plunger assembly, which includes the lubricant seal, lubricant seal back-up and spring and install into the pump body assembly. See Figure 1 or Figure 2 for correct assembly.
3. Replace the piston housing and secure with the piston housing screws.
4. Thread the timer connecting nipple into the port at the top of the piston housing. Thread the output port in the rear body of the timer to this nipple.

Caution: Be sure there are no leaks at these connections. If leaks

are present, the timer will not operate properly.

6. Install the new plunger seal and plunger seal back-up. See the procedure entitled "Plunger Seal" above.
7. Screw the upper part of the pump body assembly back into the lower part and tighten securely.
8. If the bleed screw has been removed, install and tighten securely.

Plunger and Plunger Seal Lubrication:

1. Remove the plug from the pump body (fig. 1, item 14 or fig. 2, item 13).
2. Add silicone base lubricant (Dow Dorning DC-7, part #10354) or equal into the port where the plug was removed. Approximately 0.5 cc will be required for each refill. Replace the plug.

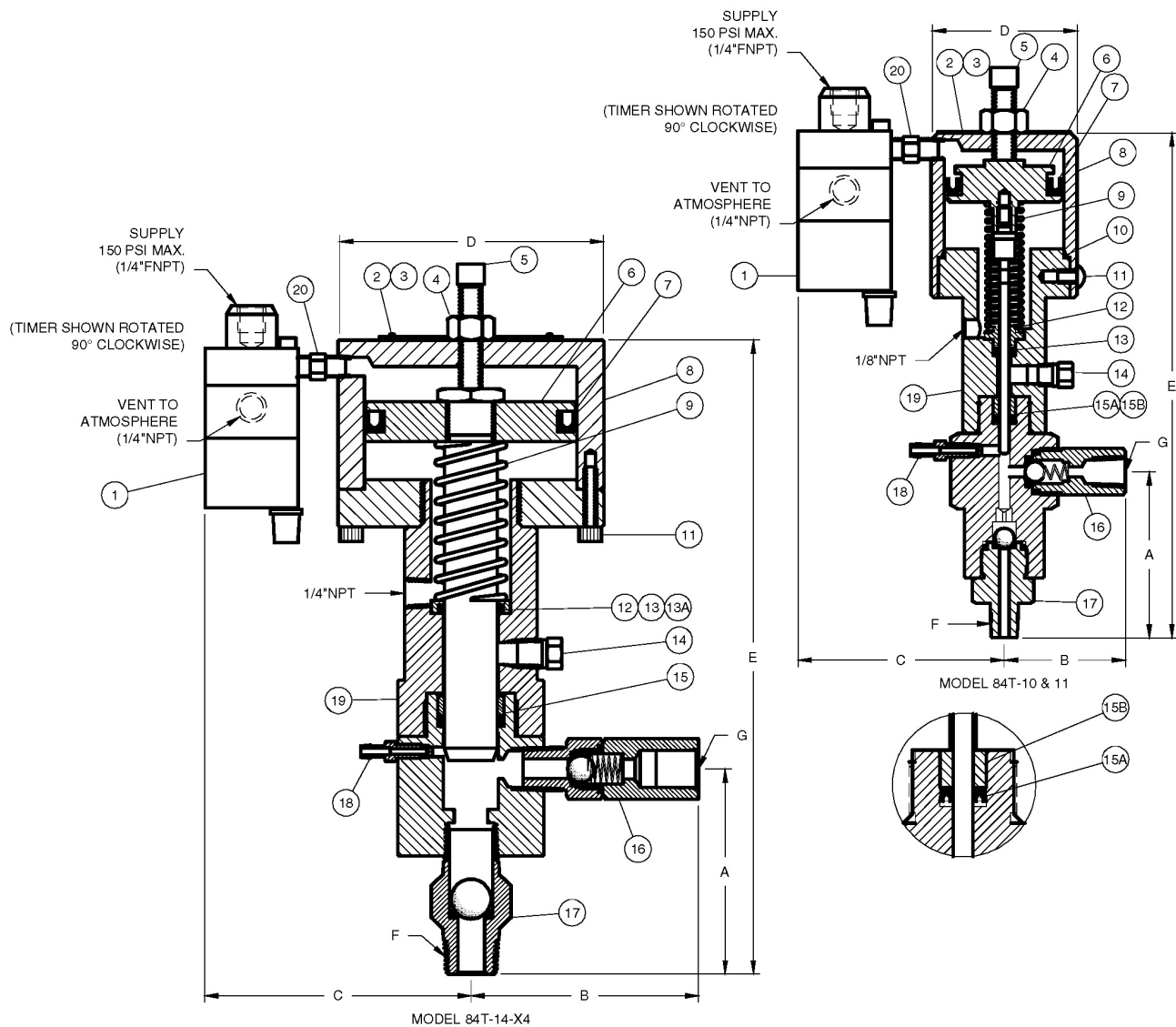
Note: Do not use a grease gun or any metal tool to insert the lubricant into the pump to prevent damage to the plunger or plunger seal.

3. Silicone lubricant should be added every 4 - 6 weeks depending upon operation conditions.

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P N E U M A T I C P L U N G E R

Figure 1, LINC84T-10, 11, & 14 Series Pump



Model	84T-10,11-X1	84T-10,11-X2	84T-14-X4
A.....	3 1/4"	3 1/4"	3 7/8"
B.....	2 1/8"	2 1/4"	4 1/4"
C.....	3 7/8"	4 1/4"	5"
D.....	2 3/4"	3 1/2"	5"
E.....	8 7/8"	9 3/4"	11 7/8"
F Suction.....	1/4" NPTM	1/4" NPTM	3/4" NPTM
G Discharge.....	1/4" NPTF	1/4" NPTF	1/2" NPTF

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P N E U M A T I C P L U N G E R

LINC84T-10, 11, & 14 Series Parts List

Model	84T-10-X1	84T-11-X1	84T-11-X2	84T-14-X4			
Plunger Size	3/16"	1/4"	1/4"	1"			
Piston Size	2 1/4"	2 1/4"	3"	4"			
Item	Part#	Part#	Part#	Part #	Description	Material	Qty
1	31668	31668	31668	31668	Pneumatic Timer	303 ss	1
2	10289	10289	10289	10289	Name Plate	18-8 ss	1
3	10324	10324	10324	10234	Name Plate Drive Screw	18-8 ss	2
4	20985	20985	20985	20985	Sealing Jam Nut	18-8 ss	1
5	11843	11843	11843	11843	Stroke Adjustment Screw	18-8 ss	1
6	25233	20859	22394	31091	Piston Assembly	303 ss	1
7	10019	10019	11146	11586	Piston U-Cup	Nitrile	1
8	20457	20457	30744	31090	Piston Housing	303 ss	1
9	10448	10448	10448	11582	Plunger Return Spring	17-7 ss	1
10	12371	12371			Piston Housing Seal	Nitrile	1
11	11753	11753	11753		Piston Housing Screw	18-8 ss	3
11A				11599	Piston Housing Screw	18-8 ss	6
12	25236	24658	22869	23552	Lubricant Seal Retainer	Acetal	1
13		12947			Lubricant Seal	Lubrithane	1
13A	13303		11150	10466	Lubricant Seal	Fluorocarbon	1
13B				23553	Lubricant Seal Back-Up	Acetal	1
14	10278	10278	10278	10278	Lubricant Plug	304 ss	1
15		See Page 12-13 for Seal Materials ..			Plunger Seal Assembly		1
16		See Page 18 for Seal Materials ..			Discharge Check Valve Assembly		1
17		See Page 19-20 for Seal Materials ..			Suction Check Valve Assembly		1
18	20460	20460	20460	20460	Bleed Screw	316 ss	1
19	31743	30814	30837	31096	Pump Body Assembly	316 ss	1
20	25130	25130	25130	25130	Close Nipple	303 ss	1

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P N E U M A T I C P L U N G E R

Series 84T-10, 11 & 14 Seal Materials

Model 84T-10-41

Item	Description	Part #	Material
15A	Plunger Seal	13304	TFE/Graphite
15B	Plunger Seal Back-Up	25258	Acetal
16	Discharge Check Assembly	22626	See Parts
17	Suction Check Assembly	24777	See Parts

Model 84T-11-11

Item	Description	Part #	Material
15A	Plunger Seal	10024	Fluorocarbon
15B	Plunger Seal Back-Up	22571	Acetal
16	Discharge Check Assembly	22624	See Parts
17	Suction Check Assembly	24774	See Parts

Model 84T-11-21

Item	Description	Part #	Material
15A	Plunger Seal	21197	Fluoromyte
15B	Plunger Seal Back-Up	22571	Acetal
16	Discharge Check Assembly	22626	See Parts
17	Suction Check Assembly	24773	See Parts

Model 84T-11-31

Item	Description	Part #	Material
15A	Plunger Seal	10464	Nitrile
15B	Plunger Seal Back-Up	22571	Acetal
16	Discharge Check Assembly	22625	See Parts
17	Suction Check Assembly	24776	See Parts

Model 84T-11-41

Item	Description	Part #	Material
15A	Plunger Seal	11821	TFE/Graphite
16	Discharge Check Assembly	22626	See Parts
17	Suction Check Assembly	24773	See Parts

Model 84T-11-61

Item	Description	Part #	Material
15A	Plunger Seal	13007	UHMWPE
16	Discharge Check Assembly	22626	See Parts
17	Suction Check Assembly	24773	See Parts

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P N E U M A T I C P L U N G E R

Series 84T-10, 11 & 14 Seal Materials

Model 84T-11-22

Item	Description	Part #	Material
15A	Plunger Seal	21197	Fluoromyte
15B	Plunger Seal Back-Up	22571	Acetal
16	Discharge Check Assembly	22626	See Parts
17	Suction Check Assembly	24777	See Parts

Model 84T-11-42

Item	Description	Part #	Material
15A	Plunger Seal	11283	TFE/Graphite
15B	Plunger Seal Back-Up	22581	Peek
16	Discharge Check Assembly	22626	See Parts
17	Suction Check Assembly	24777	See Parts

Model 84T-11-62

Item	Description	Part #	Material
15A	Plunger Seal	13007	UHMWPE
16	Discharge Check Assembly	22626	See Parts
17	Suction Check Assembly	24777	See Parts

Model 84T-14-14

Item	Description	Part #	Material
15A	Plunger Seal	11587	Fluorocarbon
15B	Plunger Seal Back-Up	23551	Acetal
16	Discharge Check Assembly	24753	See Parts
17	Suction Check Assembly	24165	See Parts

Model 84T-14-44

Item	Description	Part #	Material
15A	Plunger Seal	11590	TFE/Graphite
15B	Plunger Seal Backup	23551	Acetal
16	Discharge Check Assembly	24753	See Parts
17	Suction Check Assembly	24165	See Parts

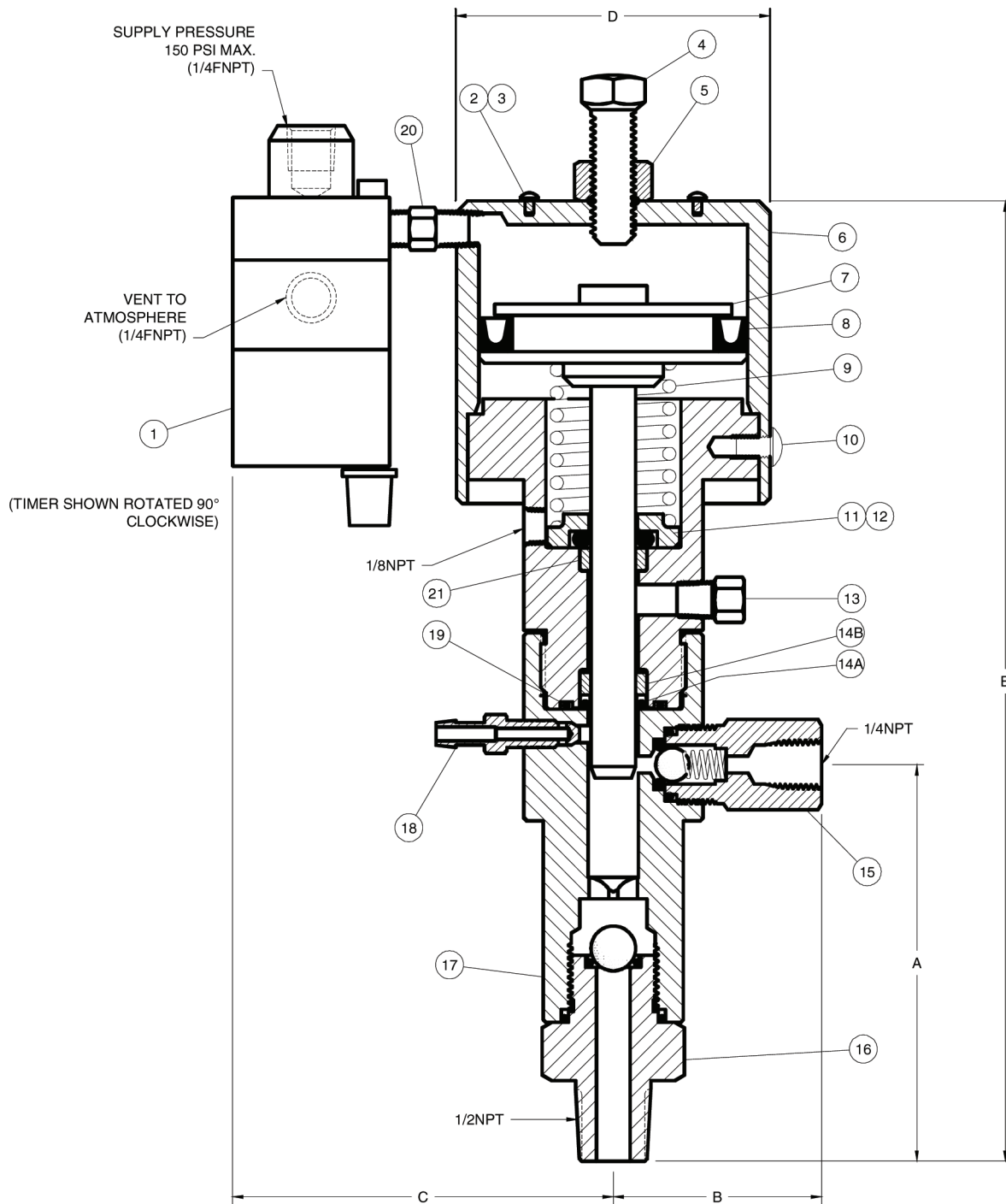
Model 84T-14-64

Item	Description	Part #	Material
15A	Plunger Seal	13143	UHMWPE
15B	Plunger Seal Back-Up	23551	Acetal
16	Discharge Check Assembly	24753	See Parts
17	Suction Check Assembly	24165	See Parts

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P N E U M A T I C P L U N G E R

Figure 2, 84T-12 Series Pump



MODEL 84T-12-X2, -X4

Model	84T-12-X2	84T-12-X4
A	3 7/8"	3 7/8"
B	2 1/4"	2 1/4"
C	4 1/4"	4 3/4"
D	3 1/2"	4 1/2"
E	10 3/4"	10 3/4"

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P N E U M A T I C P L U N G E R

LINC84T-12 Series Parts List

Model	84T-12-X2	84T-12-X4			
Plunger Size	1/2"	1/2"			
Piston Size	3"	4"			
Item	Part#	Part#	Description	Material	Qty
1	31668	31668	Pneumatic Timer	303 ss	1
2	10289	10289	Nameplate	18-8 ss	1
3	10324	10324	Nameplate Drive Screw	18-8 ss	2
4	20985	11843	Stroke Adjustment Screw	18-8 ss	1
5	20985	20985	Sealing Jam Nut	18-8 ss	1
6	30744	31127	Piston Housing	303 ss	1
7	31505	31513	Piston Assembly	303/17-4 ss	1
8	11146	11586	Piston U-Cup	Nitrile	1
9	12992	12992	Plunger Return Spring	17-7 ss	1
10	11753		Piston Housing Screw	18-8 ss	3
10A		11753	Piston Housing Screw	18-8 ss	6
11	24713	24713	Lubricant Seal Retainer	Acetal	1
12	12991	12991	Lubricant Seal	Fluorocarbon	1
13	10278	10278	Lubricant Plug	304 ss	1
14	See Page 16 for Seal Materials		Plunger Seal Assembly		1
15	See Page 18 for Seal Materials		Discharge Check Valve Assembly	316 ss	1
16	See Page 19-20 for Seal Materials		Suction Check Valve Assembly	316 ss	1
17	31527	31511	Pump Body Assembly	316 ss	1
18	20460	20460	Bleed Screw	316 ss	1
19	10466	10466	O-Ring	Fluorocarbon	1
20	25130	25130	Close Nipple	303 ss	1
21	12990	12990	Split Ring	Filled PTFE	1

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P N E U M A T I C P L U N G E R

LINC84T-12 Series Seal Materials

Model 84T-12-12, 14

Item	Description	Part #	Material	Qty
14A	Plunger Seal	10525	Fluorocarbon	1
14B	Back-Up	25374	Peek	1
15	Discharge Check Assembly	22624	See Parts	1
16	Suction Check Assembly	24779	See Parts	1

Model 84T-12-22, 24

Item	Description	Part #	Material	Qty
14A	Plunger Seal	21196	Fluoromyte	1
14B	Back-Up	25374	Peek	1
15	Discharge Check Assembly	22626	See Parts	1
16	Suction Check Assembly	24778	See Parts	1

Model 84T-12-32, 34

Item	Description	Part #	Material	Qty
14A	Plunger Seal	10526	Nitrile	1
14B	Back-Up	25374	Peek	1
15	Discharge Check Assembly	22625	See Parts	1
16	Suction Check Assembly	24780	See Parts	1

Model 84T-12-42, 44

Item	Description	Part #	Material	Qty
14A	Plunger Seal	11004	TFE Graphite	1
14B	Back-Up	25374	Peek	1
15	Discharge Check Assembly	22626	See Parts	1
16	Suction Check Assembly	24778	See Parts	1

Model 84T-12-62, 64

Item	Description	Part #	Material	Qty
14A	Plunger Seal	12963	UHMWPE	1
14B	Back-Up	25374	Peek	1
15	Discharge Check Assembly	22626	See Parts	1
16	Suction Check Assembly	24778	See Parts	1

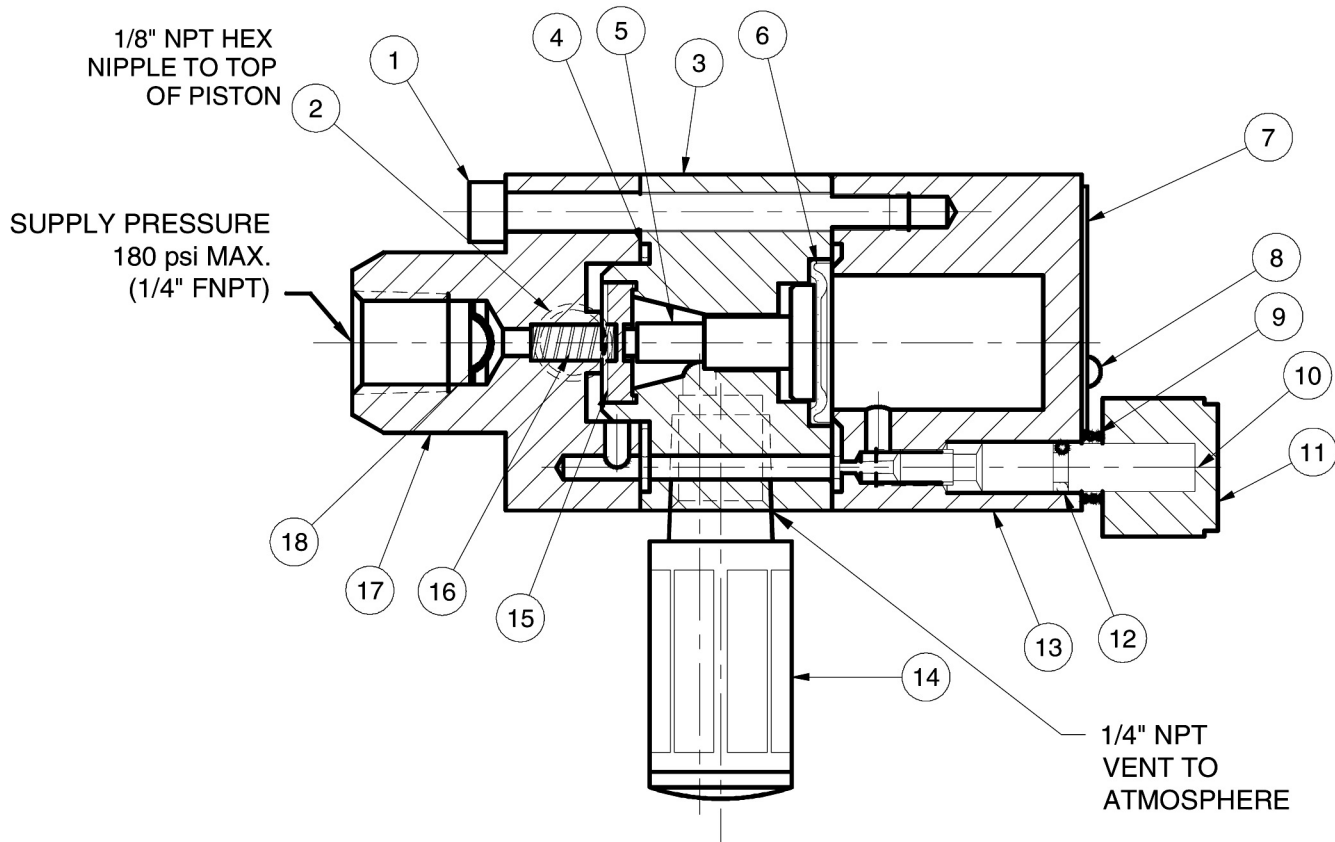
METERING PUMPS

P N E U M A T I C P L U N G E R

Figure 3, Timer

Reference fig. 1, item 1

Reference fig. 2, item 1



Assembly Item	31668 Part #	Timer Description	Material	Qty
1	13223	Screw	18-8 ss	2
2	25130	Hex Nipple	303 ss	1
3	31664	Center Body	303 ss	1
4	13227	Seal	Nitrile	1
5	13247	Disc Actuator	Delrin	1
6 *	13226	Diaphragm	Nitrile	1
7	13246	Nameplate	18-8 ss	1
8	10324	Drive Screw	18-8 ss	2
9	13253	Knob Spring	Stainless Steel	1
10	25149	Adjustment Screw	303 ss	1
11	13243	Knob	Polycarbon	1
12	10326	O-Ring	Nitrile	1
13 *	31663	Front Body	303 ss	1
14	12952	Muffler		1
15	13225	Disc	Aluminum/Nitrile	1
16 *	13222	Disc Spring	Stainless steel	1
17	31665	Rear Body	303 ss	1
18 *	10244	Screen	Stainless Steel	1
*	25183	Repair Kit		1

*Recommended spare

METERING PUMPS

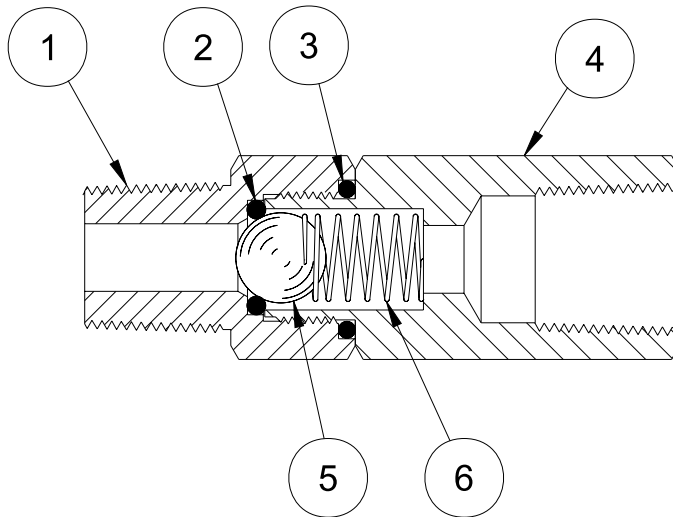
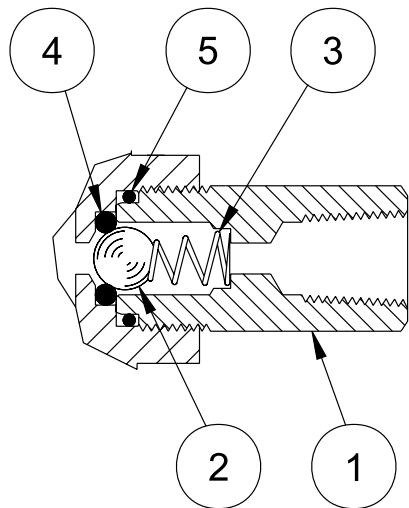
P N E U M A T I C P L U N G E R

Figure 4, Discharge Check Valve
One Piece Body

Reference fig. 1, item 16
 Reference fig. 2, item 15

Figure 5, Discharge Check Valve
Two Piece Body

Reference fig. 1, item 16
 Model 84T-14 Only



Assembly	22624	22625	22626	Discharge Check Valve - One Piece Body	Port Size 1/4" NPTF	
Item	Part #	Part #	Part #	Description	Material	Qty
1	20570	20570	20570	Outlet Body	316 ss	1
2	10283	10283	10283	Ball	Carbide	1
3	10068	10068	10068	Spring	316 ss	1
4	10312			Seat	Fluorocarbon	1
		10328		Seat	Nitrile	1
			10317	Seat	TFE	1
5	10482			Seal	Fluorocarbon	1
		10124		Seal	Nitrile	1
			10481	Seal	TFE	1

Assembly	24753	Discharge Check Valve - Two-Piece Body	Port Size 1/2" NPTF	
Item	Part #	Description	Material	Qty
1	23569	Inlet Body	316 ss	1
2	10469	Seat	TFE	1
3	11595	Seal	Fluorocarbon	1
4	24757	Outlet Body	316 ss	1
5	10529	Ball	Carbide	1
6	11604	Spring	316 ss	1

METERING PUMPS

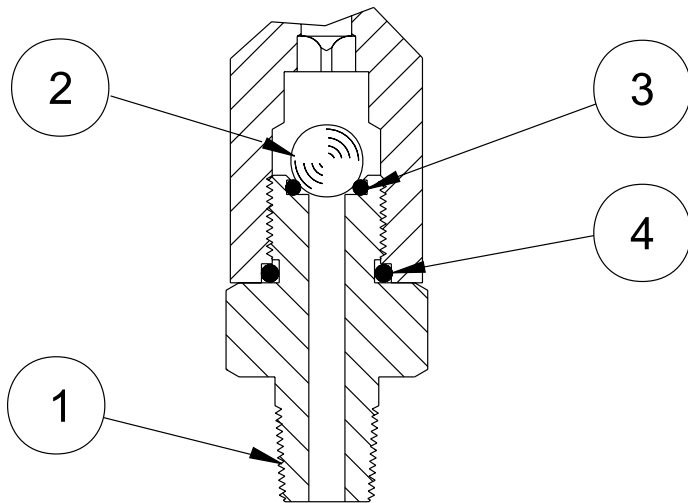
P N E U M A T I C P L U N G E R

Figure 6, Suction Check Valve

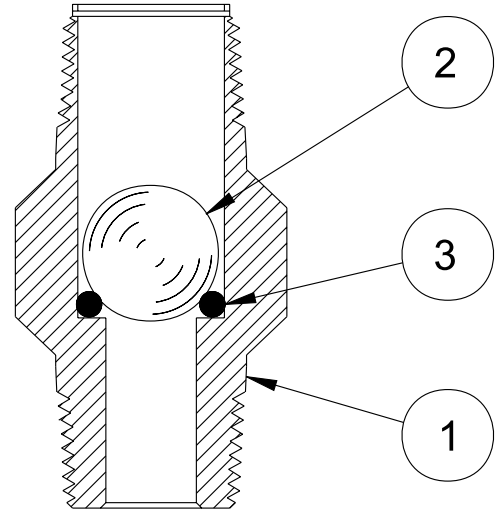
One Piece Body

Reference fig. 1, item 17

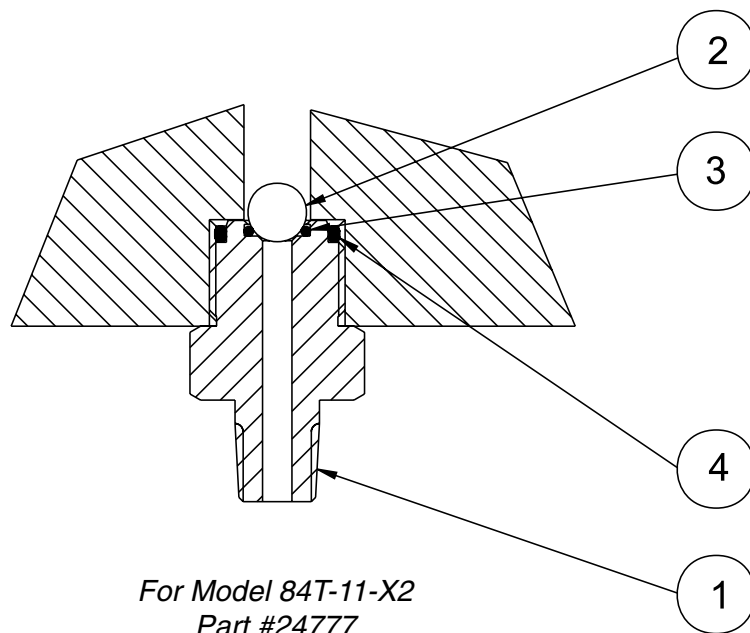
Reference fig. 2, item 16



For Model 84T-11 & 84-12



For Model 84T-14 Only



For Model 84T-11-X2
Part #24777

METERING PUMPS

P N E U M A T I C P L U N G E R

Suction Check Valves - One Piece Body

Part Number 24773				Port Size 1/4" NPTM	
Item	Description	Part #	Material	Qty	
1	Inlet Body	24789	316 ss	1	
2	Ball	10283	Carbide	1	
3	Seat	10365	TFE	1	
4	Seal	10280	Fluorocarbon	1	

Part Number 24774				Port Size 1/4" NPTM	
Item	Description	Part #	Material	Qty	
1	Inlet Body	24789	316 ss	1	
2	Ball	10283	Carbide	1	
3	Seat	10282	Fluorocarbon	1	
4	Seal	10280	Fluorocarbon	1	

Part Number 24775				Port Size 1/4" NPTM	
Item	Description	Part #	Material	Qty	
1	Inlet Body	24789	316 ss	1	
2	Ball	10283	Carbide	1	
3	Seat	10365	TFE	1	
4	Seal	10122	Nitrile	1	

Part Number 24776				Port Size 1/4" NPTM	
Item	Description	Part #	Material	Qty	
1	Inlet Body	24789	316 ss	1	
2	Ball	10283	Carbide	1	
3	Seat	10110	Nitrile	1	
4	Seal	10122	Nitrile	1	

Part Number 24777				Port Size 1/4" NPTM	
Item	Description	Part #	Material	Qty	
1	Inlet Body	24790	316 ss	1	
2	Ball	10283	Carbide	1	
3	Seat	10365	TFE	1	
4	Seal	10481	TFE	1	

Part Number 24778				Port Size 1/2" NPTM	
Item	Description	Part #	Material	Qty	
1	Inlet Body	24787	316 ss	1	
2	Ball	10529	Carbide	1	
3	Seat	10469	TFE	1	
4	Seal	10467	TFE	1	

Part Number 24779				Port Size 1/2" NPTM	
Item	Description	Part #	Material	Qty	
1	Inlet Body	24787	316 ss	1	
2	Ball	10529	Carbide	1	
3	Seat	10337	Fluorocarbon	1	
4	Seal	10466	Fluorocarbon	1	

Part Number 24780				Port Size 1/2" NPTM	
Item	Description	Part #	Material	Qty	
1	Inlet Body	24787	316 ss	1	
2	Ball	10529	Carbide	2	
3	Seat	10121	Nitrile	1	
4	Seal	10468	Nitrile	1	

Part Number 24165				Port Size 3/4" NPTM	
Item	Description	Part #	Material	Qty	
1	Inlet Body	31123	316 ss	1	
2	Ball	11585	440C	1	
3	Seat	11772	TFE	1	

METERING PUMPS

LINC Chemical Pump Gas Consumption Table

ACTUATION PISTON DIA. (IN)>>	1.50	2.25	3	4	4	4	6	8	10
>> CONFIGURATION >>	SPRING RETURN NO RELAY	SPRING RETURN NO RELAY	SPRING RETURN NO RELAY	SPRING RETURN NO RELAY	SPRING RETURN INCLUDING RELAY	GAS RETURN INCLUDING RELAY	GAS RETURN INCLUDING RELAY	GAS RETURN INCLUDING RELAY	GAS RETURN INCLUDING RELAY
SUPPLY PRESS. (PSI)	VOLUME DISPLACED BY PISTON FOR 1" STROKE(CUBIC FEET)								
	0.00102265	0.00230097	0.00409062	0.00727221	0.00727221	0.01454441	0.03272492	0.05817764	0.09090257
	THEORETICAL GAS CONSUMPTION FOR EACH 1" STROKE (SCF)								
0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
10	0.0017	0.0039	0.0069	0.0122	0.0122	0.0244	0.0550	0.0978	0.1527
20	0.0024	0.0054	0.0097	0.0172	0.0172	0.0343	0.0772	0.1373	0.2146
30	0.0031	0.0070	0.0124	0.0221	0.0221	0.0442	0.0995	0.1769	0.2764
40	0.0038	0.0086	0.0152	0.0271	0.0271	0.0541	0.1218	0.2165	0.3383
50	0.0045	0.0101	0.0180	0.0320	0.0320	0.0640	0.1440	0.2561	0.4001
60	0.0052	0.0117	0.0208	0.0370	0.0370	0.0739	0.1663	0.2956	0.4619
70	0.0059	0.0133	0.0236	0.0419	0.0419	0.0838	0.1886	0.3352	0.5238
80	0.0066	0.0148	0.0264	0.0468	0.0468	0.0937	0.2108	0.3748	0.5856
90	0.0073	0.0164	0.0291	0.0518	0.0518	0.1036	0.2331	0.4144	0.6474
100	0.0080	0.0180	0.0319	0.0567	0.0567	0.1135	0.2553	0.4539	0.7093
110	0.0087	0.0195	0.0347	0.0617	0.0617	0.1234	0.2776	0.4935	0.7711
120	0.0094	0.0211	0.0375	0.0666	0.0666	0.1333	0.2999	0.5331	0.8330
130	0.0101	0.0226	0.0403	0.0716	0.0716	0.1432	0.3221	0.5727	0.8948
140	0.0108	0.0242	0.0430	0.0765	0.0765	0.1531	0.3444	0.6123	0.9566
150	0.0115	0.0258	0.0458	0.0815	0.0815	0.1630	0.3667	0.6518	1.0185