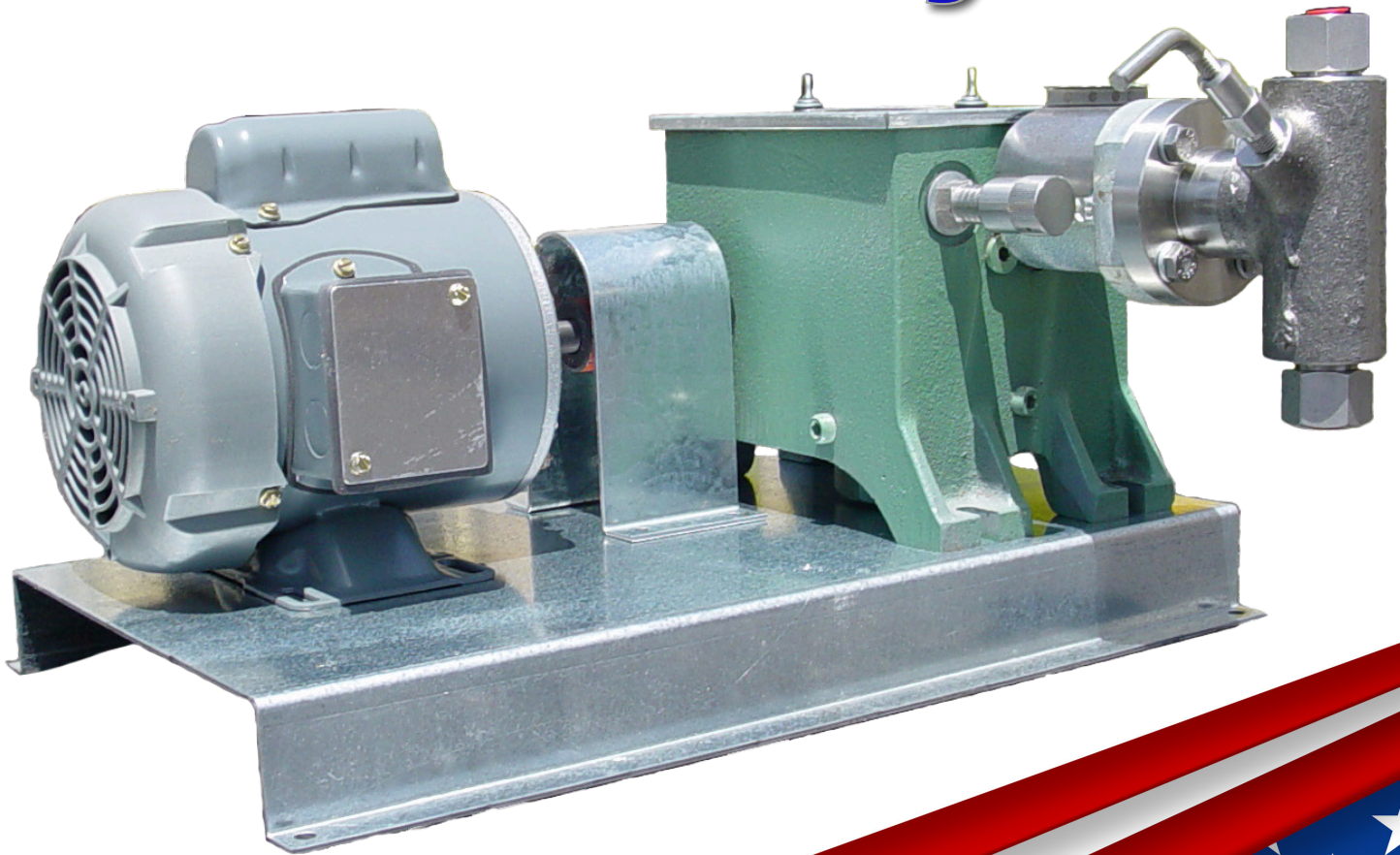




Different By Design

4500 Series Injector

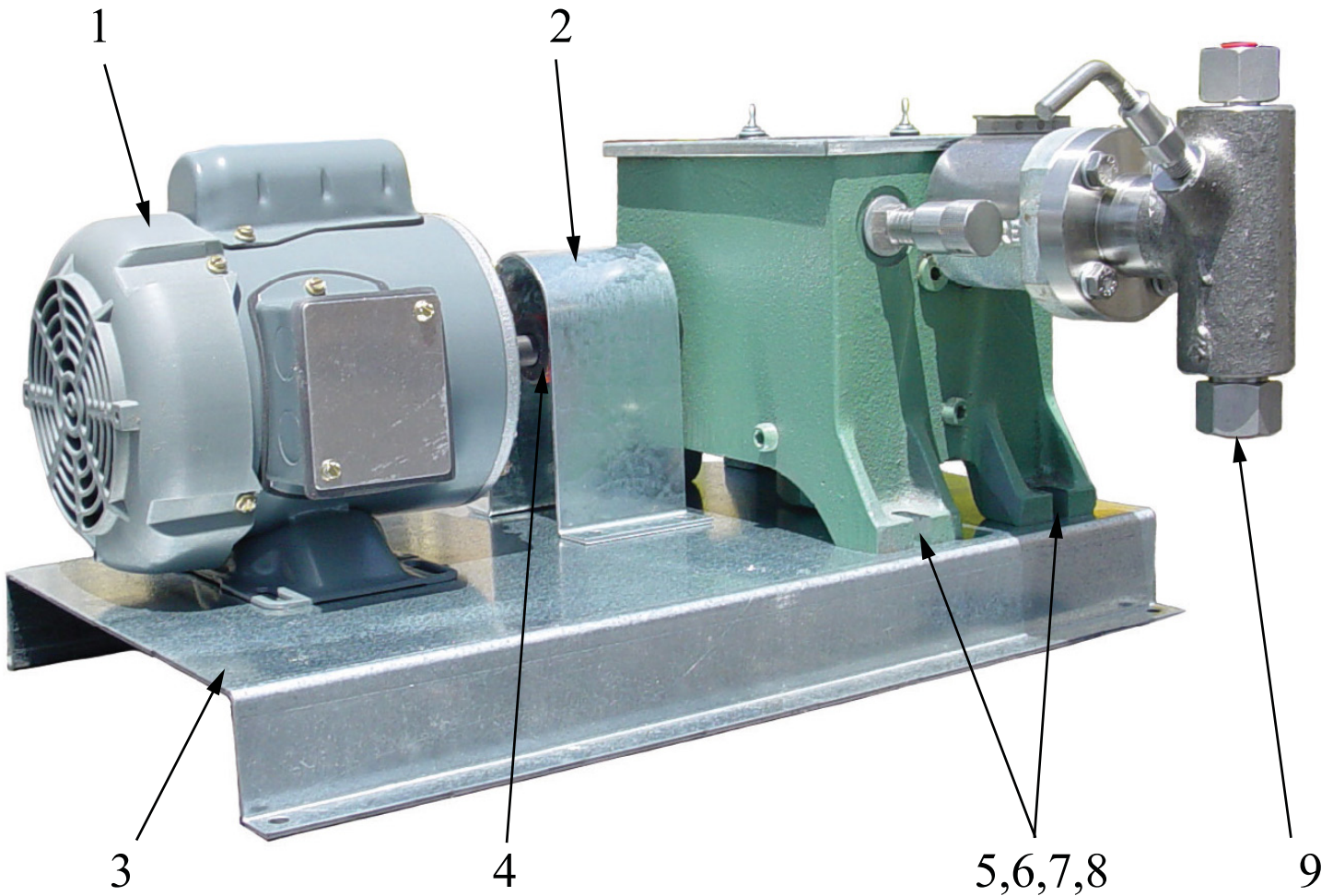




Maintenance Instructions to Inspect and Replace Plunger Packing

1. Turn off the pump. Isolate injection point from back flow or pressure.
2. Remove suction & discharge lines. (Caution: Pressure might be trapped inside head or lines.)
3. Loosen packing gland nut, then slide the nut back from the head.
4. Depending on pump model, loosen the brass jam nut from the yoke or body. You can now unscrew and remove the head body.
5. Remove packing gland from head if needed. This might remain on the plunger nut.
6. Inspect the plunger for wear. If the plunger needs to be replaced, remove the plunger pin and slide the plunger out. Insert the new plunger and reinstall the pin. (If plunger is good, move to step 7.)
7. Remove the plunger packing with a pick or small screwdriver. (Take note of packing orientation for reinstall.)
8. Inspect the throat of the head body for pitting and wear. Replace if needed.
9. Install new plunger packing one ring at a time, ensuring that each ring is seated flush.
10. Reinstall the packing gland. Insert the head onto the plunger and yoke. Thread the head back into the yoke until the jam nut touches. Align body into correct vertical position and tighten the jam nut securely. (Head should not be able to spin.)
11. Reinstall the packing gland nut until it makes contact with the packing. Apply an additional 1/4" turn into the packing.
12. Reinstall the suction and discharge lines. Open injection point valve and check for leaks.
13. Turn on the pump. Open the priming valve to bleed air from the suction lines and head. Confirm the pump is pumping and check for leaks.
14. Adjust the plunger packing as needed. Run the pump for 15 minutes and check for packing nut contact. If loose, tighten nut 1/4" at a time. (Make sure to bleed the head before making packing adjustments.)

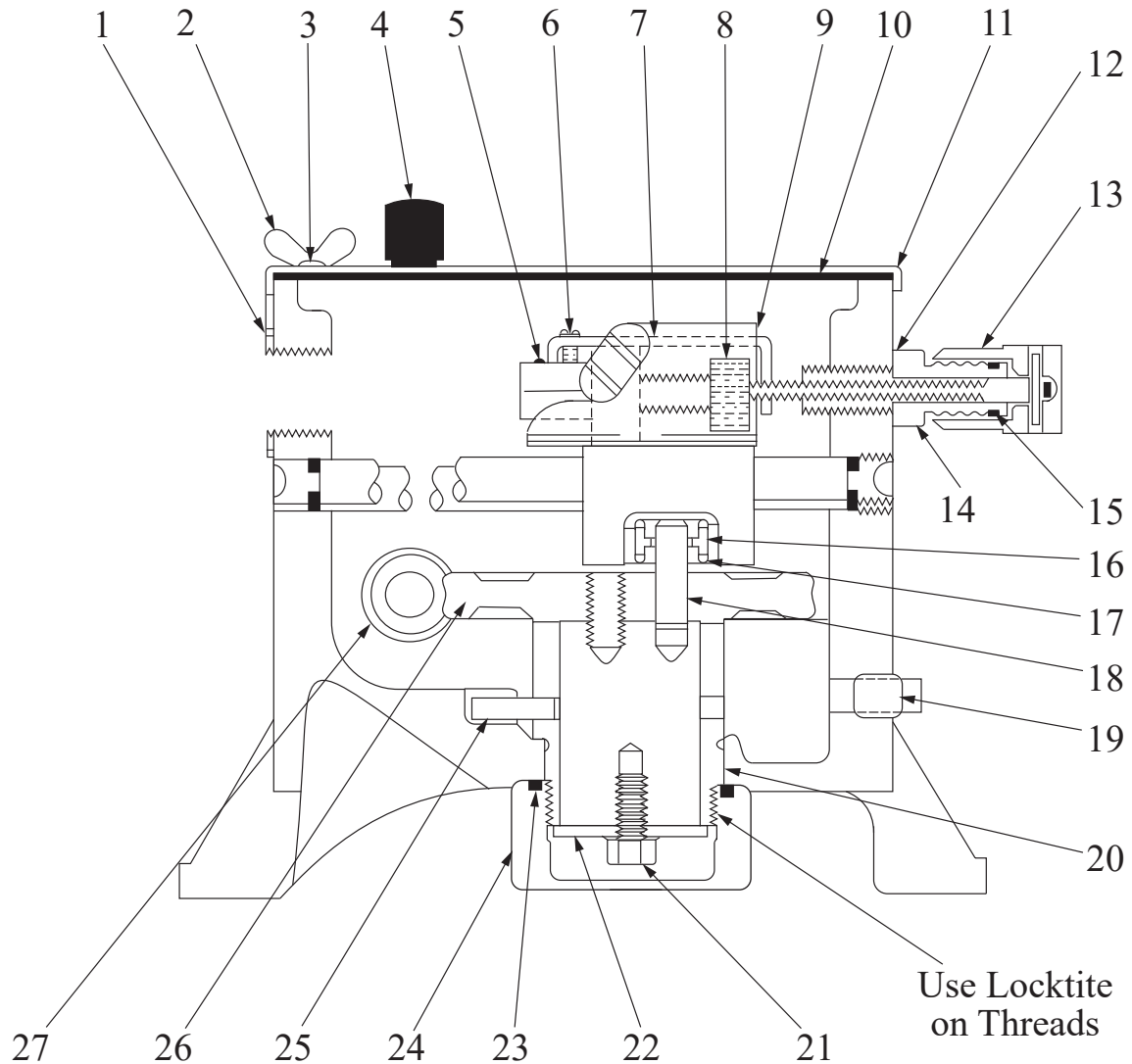
4500 Series Injector



Item #	Part #	# Req.	Description
1	A-2264.3	1	1/3 HP 1/115/230 TEFC Electric Motor
	A-2268		1/3 HP 3 Phase 3/230/460 TEFC Electric Motor
	A-2265		1/3 HP Single Phase Explosion Proof Electric Motor
	A-2271		1/3 HP 3 Phase Explosion Proof Electric Motor
2	B-1167	1	Coupling Guard
3	B-0437	1	Base
4	A-1653	1	1/2" x 5/8" Coupling
5	A-0164	1	Nut
6	A-3303	1	Split Lock Washer
7	A-0167	1	Flat Washer
8	A-0163	1	Hex Head Bolt
9	See page 8	See Page 8	Head Assembly

Gear Box Assembly

Side View



Flow Rate Adjustment

Turn knob, Item #13, clockwise to decrease flow. Each complete turn of the knob results in 10% change in stroke setting. Each groove on the spindle, Item #15 is equal to 25% change in stroke setting. To adjust pump while stopped, make sure plunger is in the full forward position.

Gear Box Assembly Parts List (Side View)

Item #	Part #	# Req.	Description	Material
1	A-4256	2	Belleville Washer	302 Stainless Steel
2	A-2970	2	Thumb Screw	Cadmium Plated Carbon Steel
*3	A-4092	2	1/4" Stat-O-Seal	Buna-N
4	A-2600	2	Breather	▲
*5	A-0290	1	Plunger Pin	Carbon Steel
*6	A-3312	1	Lock Washer	Zinc Plated Steel
	A-4753		Round Head Screw	
7	A-4756	1	Guide Bar	Zinc Plated Steel
8	A-4757	1	Stroke Adjustment Gear	Steel
9	A-4758	1	Stroke Adjustment Drive Gear	Steel
10	A-4814	1	Cover Gasket	Neoprene
11	C-1576	1	Cover	Galvanized Carbon Steel
12	A-4759	1	Gasket	Buna-N
13	A-4805-A	1	Stroke Adjustment Knob & Screw Assembly	Steel
14	A-4761	1	Stroke Adjustment Spindle	303 Stainless Steel
15	A-1957	1	O-Ring	Buna-N
16	A-4065	1	Crosshead Bearing	Carbon Steel
17	A-4058	1	Washer	Carbon Steel
18	A-4064	1	Bearing Stud	Carbon Steel
19	A-0138	1	Pipe Plug	Zinc Plated Steel
20	B-0619	1	Lower Bearing	Ductile Iron
*21	A-2501	1	Machine Screw	Zinc Plated Steel
	A-0459		3/8" Spring Lock Washer	
*22	A-1930	1	Bottom Thrust Washer	Carbon Steel
*23	A-2457	1	O-Ring	Buna-N
*24	A-1921	1	Cap	Carbon Steel
*25	A-2337	1	Roll Pin	Cadmium Plated Carbon Steel
*26	B-0261	1	Worm Gear (25:1 Ratio)	Cast Iron
	B-0616		Worm Gear (50:1 Ratio)	
	B-0623		Worm Gear (100:1 Ratio)	
*27	A-1871	1	Worm & Shaft Assembly (25:1 Ratio)	Carbon Steel
	A-2250		Worm & Shaft Assembly (50:1 Ratio)	
	A-1755		Worm & Shaft Assembly (100:1 Ratio)	
▲	B-0270	1	Thru Shaft Assembly (25:1 Ratio)	Carbon Steel
	B-0469		Thru Shaft Assembly (50:1 Ratio)	
	B-0452		Thru Shaft Assembly (100:1 Ratio)	

Recommended Spare Parts

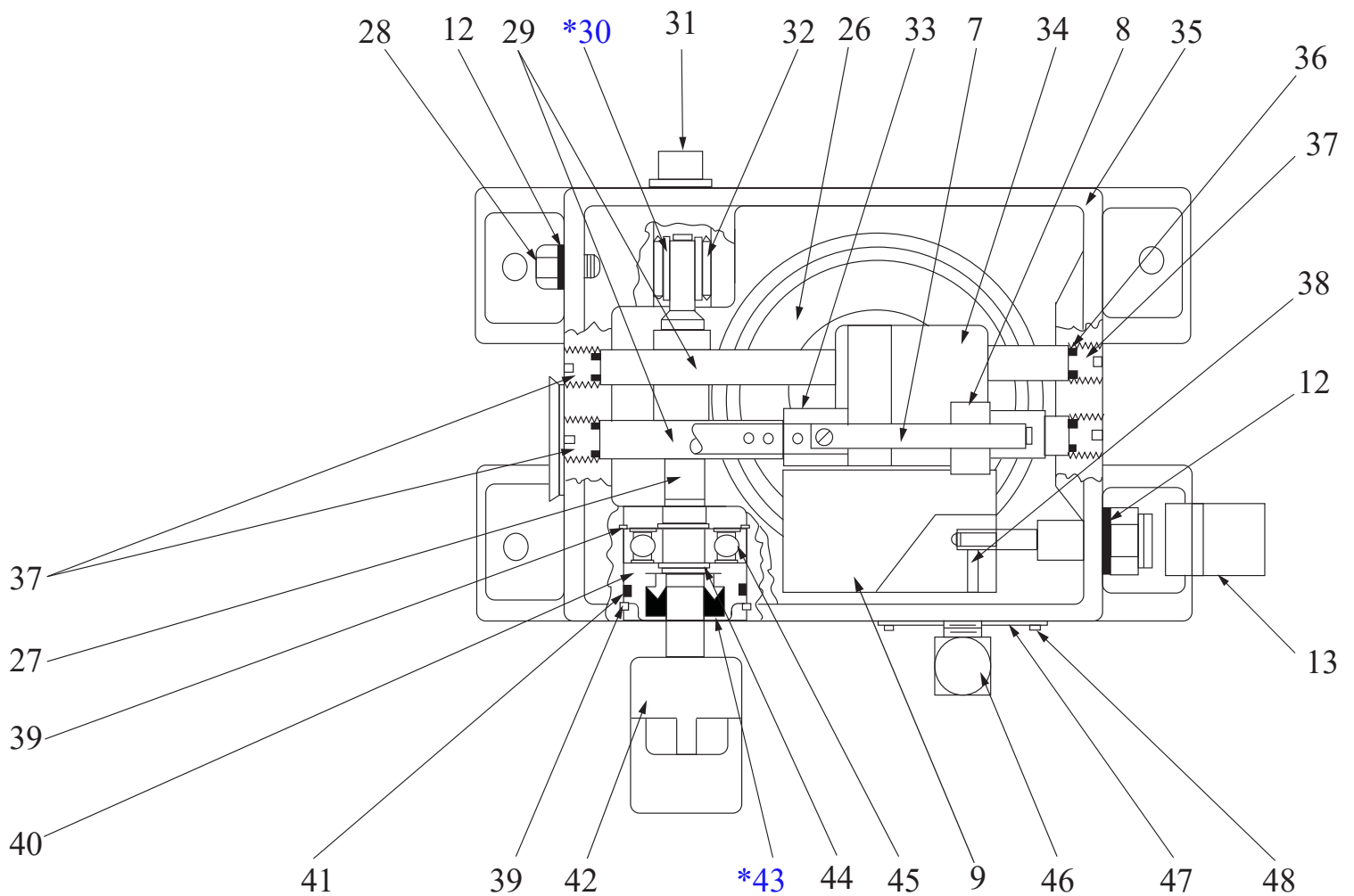
▲ Use when a common motor is used to drive more than one gear box assembly

• Parts are interchangeable with 4400 Series

Gear Box Assembly

Top View

** Apply Lubriplate 630 AA or equal*



** Apply Lubriplate 630 AA or equal between shaft and seal lips*
• Assemble oil seal flush with end of cartridge

Gear Box Assembly Parts List (Top View)

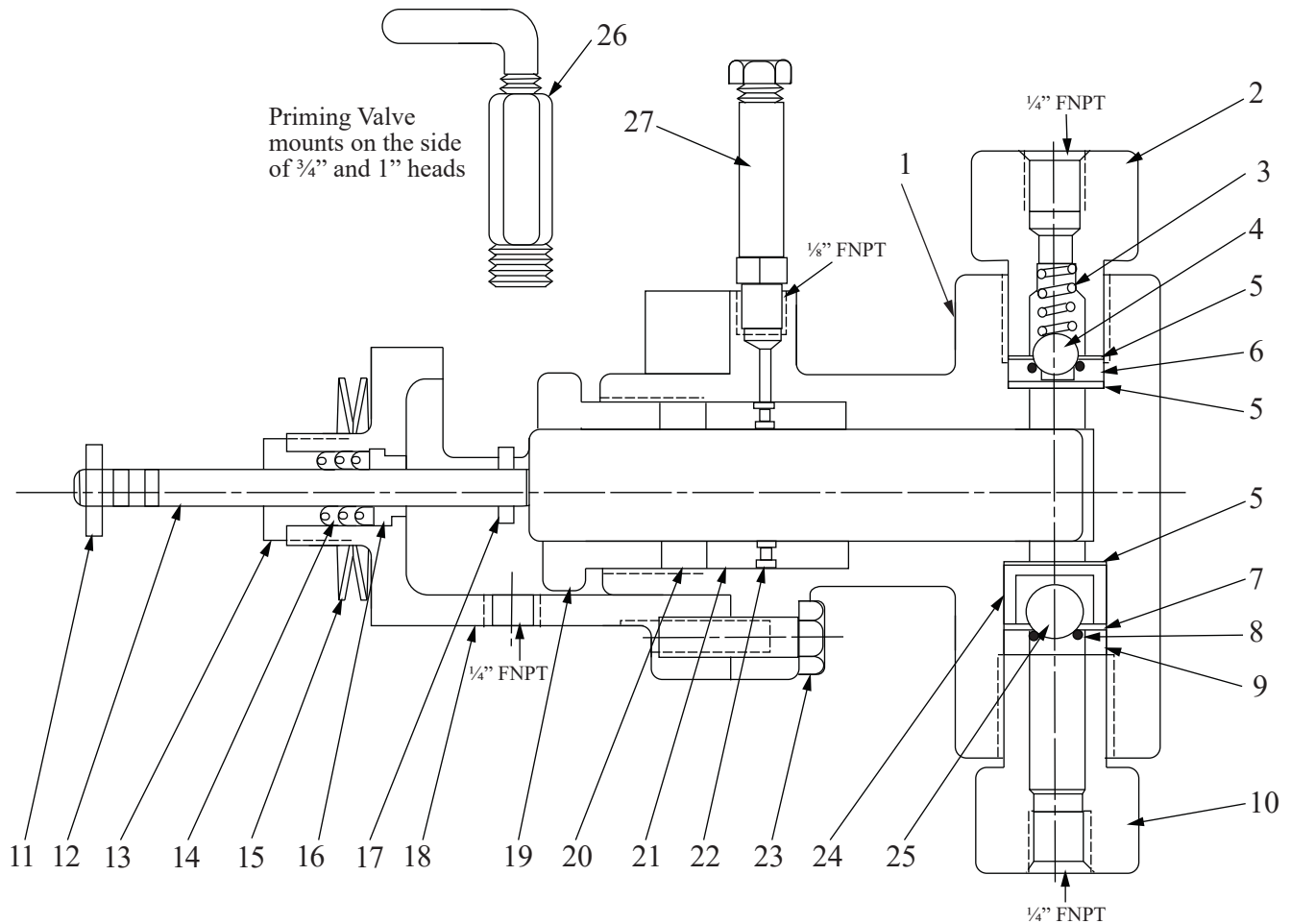
Item #	Part #	# Req.	Description	Material
7	A-4756	1	Guide Bar	Zinc Plated Steel
8	A-4757	1	Stroke Adjustment Gear	Steel
9	A-4758	1	Stroke Adjustment Drive Gear	Steel
12	A-4759	1	Gasket	Buna-N
13	A-4805-A	1	Stroke Adjustment Knob & Screw Assembly	Steel
26	B-0621	1	Worm Gear (25:1 Ratio)	Cast Iron
	B-0616		Worm Gear (50:1 Ratio)	
	B-0623		Worm Gear (100:1 Ratio)	
27	A-1871	1	Worm & Shaft Assembly (25:1 Ratio)	Carbon Steel
	A-2250		Worm & Shaft Assembly (50:1 Ratio)	
	A-1755		Worm & Shaft Assembly (100:1 Ratio)	
28	A-4795	1	Bolt	Zinc Plated Steel
29	A-4229	2	Crosshead Guide Bar	Carbon Steel
*30	A-2287	1	Inner Race Bearing	Carbon Steel
31	A-3309	1	Pipe Plug	Galvanized Malleable Iron
*32	A-2286	1	Needle Bearing	Carbon Steel
33	A-4755	1	Adjustment Bolt	Carbon Steel
34	B-1333	1	Crosshead	Cast Iron
35	D-0492	1	Housing	Cast Iron
36	A-3849	4	O-Ring	Buna-N
37	A-4228	4	Rod Retainer	Carbon Steel
38	A-4894	1	Set Screw	Steel
*39	A-3311	2	Truarc Ring	Steel
40	A-4045	1	Seal Cartridge	Carbon Steel
41	A-1961	1	O-Ring	Buna-N
▲*42	A-1653	1	1/2" x 5/8" Coupling	Carbon Steel
	A-1836		1/2" x 1/2" Coupling	
*43	A-2064	1	Seal	Buna-N
▲*44	A-3310	2	Truarc Ring	Carbon Steel
*45	A-2285	1	Ball Bearing	Carbon Steel
46	A-4066	1	Oil Gauge Assembly	Brass with Glass Tube
47	A-0172	1	Name Plate	Aluminum
48	A-0171	2	Escutcheon Pin	Brass
▲	A-2036A	1	Bearing	Brass
▲	C-0485	1	O-Ring	Buna-N

Recommended Spare Parts

• Parts are interchangeable with 4400 Series

▲ Use when a common motor is used to drive more than one gear box assembly

Injector Head



Alternative Construction

Item #	Part #	# Req.	Description	Material
*4	A-4657	1	3/4" Plunger Packing	Viton
	A-2988			Teflon
	A-4658		1" Plunger Packing	Viton
	A-1013			Teflon
6	A-2184	1	O-Ring	Viton
*12	A-0157	1	Top Seat Metal to Metal	303 Stainless Steel
*19	A-0051	1	Bottom Seat Metal to Metal	303 Stainless Steel

Injector Head

Parts List

Item #	Part #		# Req.	Description	Material
	3/4"	1"			
*	C-0188	C-1886	1	Head Assembly	Ductile Iron with Stainless Steel Trim
	C-1887	C-1885			Stainless Steel
*1	C-0333	C-0020	1	Body	Ductile Iron
	C-0340	C-0138			Stainless Steel
*2	A-0152		1	Top Bushing	302 Stainless Steel
*3	A-0077		1	Ball Check Spring	316 Stainless Steel
*4	A-0054		1	3/8" Large Top Ball	316 Stainless Steel
5	A-2350		3	Gasket	304 Stainless Steel
*6	B-0368		1	Top Seat Assembly with Buna O-Ring	303 Stainless Steel
*7	A-2338		1	Gasket	304 Stainless Steel
*8	A-0612		1	O-Ring	Buna-N
*9	B-0698		1	Bottom Seat	303 Stainless Steel
10	A-0153		1	Bottom Bushing	303 Stainless Steel
*11	A-0290		1	Plunger Pin	Carbon Steel
*12	B-1351	B-1352	1	Plunger	17-4 pH Stainless Steel
13	A-4094		1	Yoke Packing Nut	Brass
14	A-4127		1	Yoke Packing Set	Buna-N
15	A-4256		2	Belleville Washer	Carbon Steel
16	A-4095		1	Plunger Wiper Ring	Buna-N
17	A-4095		1	Plunger Wiper Ring	Buna-N
18	C-1884		1	Yoke	Malleable Iron
*19	A-2768	A-0047	1	Plunger Packing Gland Nut	316 Stainless Steel
20	A-2769	A-0043	1	Plunger Packing Gland	303 Stainless Steel
*21	A-2771	A-0050	1	Plunger Packing Set	Buna-N
22	A-2770	A-0448	1	Lantern Ring	303 Stainless Steel
23	A-4452		1	Bolt	303 Stainless Steel
24	A-0444		1	Ball Cage	303 Stainless Steel
*25	A-0053		1	Suction Ball	316 Stainless Steel
*26	A-0123		1	Priming Valve	303 Stainless Steel
27	A-0558		1	Grease Jack Assembly	Carbon Steel

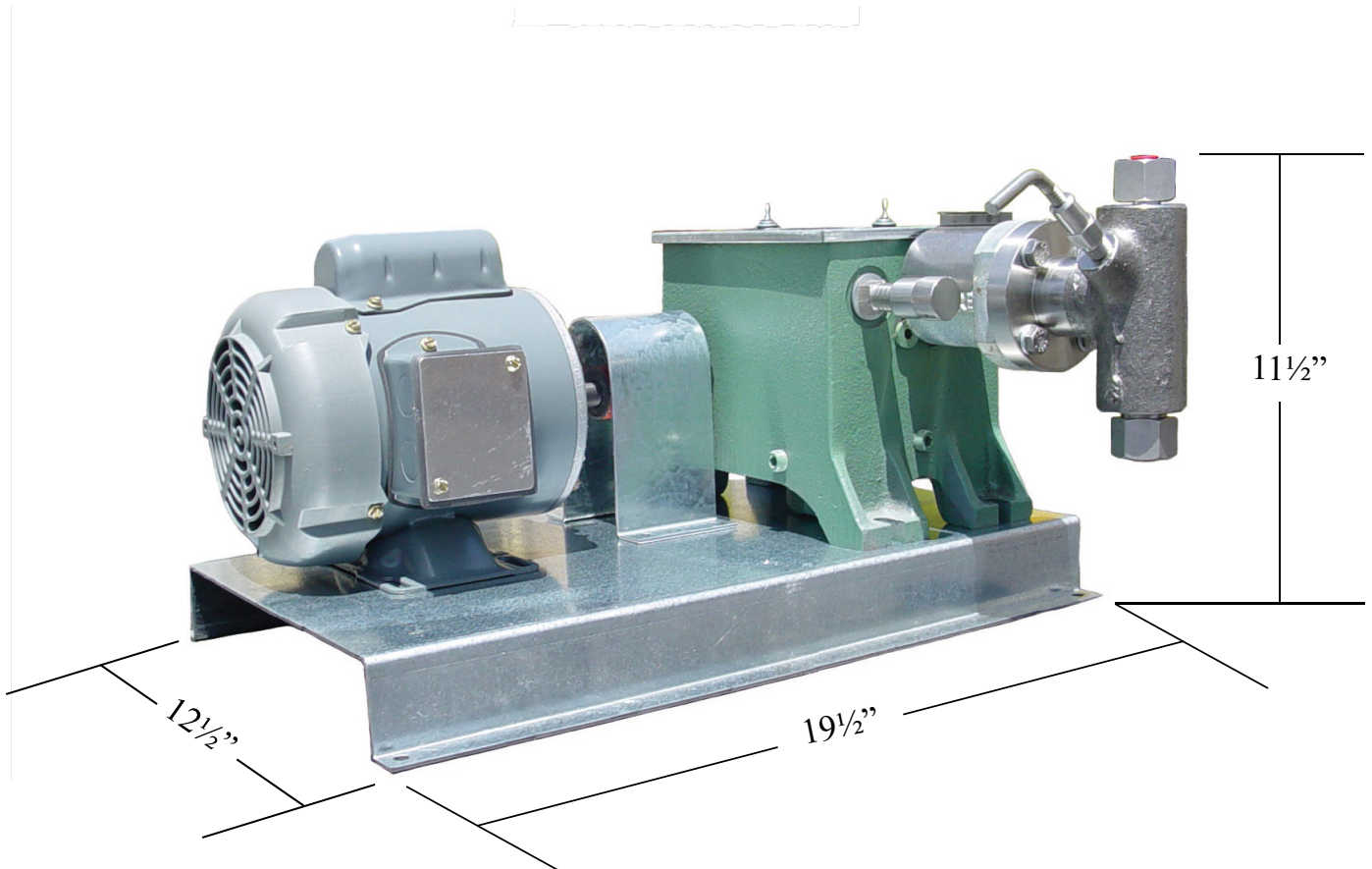
Recommended Spare Parts

*Directly interchangeable with 4400 Series Pumps

Performance Data

# of Heads	Plunger Size	Maximum Discharge Pressure (PSI)	100:1 Ratio (17.5 SPM)				50:1 Ratio (35 RPM)				25:1 Ratio (70 SPM)			
			Model #	Min. Both Motors	Max. 60 Hz Motor	Max. 50HZ Motor	Model #	Min. Both Motors	Max. 60Hz Motor	Max. 50 Hz Motor	Model #	Min. Both Motors	Max. 60 Hz Motor	Max. 50 Hz Motor
Single Head	3/4"	300 PSI	45-25	4.6	46	38.0	45-05	9.1	91	75.5	45-35	18.2	182	151
	1"	150 PSI	45-26	8.1	81	97.5	45-06	16.3	163	135.2	45-36	32.5	325	269.7
Double Head	3/4"	300 PSI	45-25DH	9.2	92	76.3	45-05DH	18.2	182	151	45-35DH	36.4	364	302.1
	1"	150 PSI	45-26DH	16.2	162	134.4	45-06DH	32.6	326	270.5	45-36DH	65.0	650	539.5

*Volume expressed in U.S. Gallons per Day



Notes



Different By Design

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