

# CIP Chemical Injection Pump

## Application

The Series CIP is a positive displacement pump used to inject chemicals into a line under pressure. Applications include injection of chemical into wellheads, pipelines or batch process manufacturing. Examples include injecting: methanol into gas systems to prevent freezing; corrosion inhibitors, friction reducers or scale inhibitors into pipelines; a liquid into a batch process as a chemical additive or catalyst for a produced product.

## Features

- New W27 Stand-Alone Timer
- Hard Anodized Aluminum
- Duo-Seal Plunger: Self-Lubrication
- EnduroBond™ Coated Springs
- Threaded Exhaust Ports
- Speed and Stroke Adjustment
- Economical Light Weight Design
- Air or Gas Operated
- 35:1 to 80:1 Power Head to Fluid End Ratio
- Discharge Pressures from 1700-6500 psi
- Optional Plunger Packing with O-Spring Energizer

## Specifications

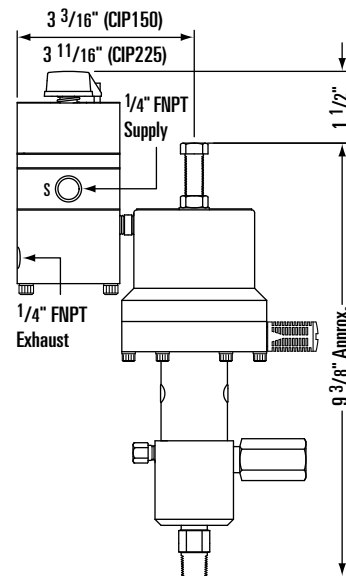
Connection ..... 1/4" FNPT  
 Pressure  
 Discharge ..... See Table 1  
 Supply ..... 25-100 psi  
 Suction .... Atmosphere (Gravity Feed)  
 O-rings  
 Discharge Check ..... Teflon®  
 Plunger ..... See "Determining the Model Number" Options

## General

Temperature ..... -50° F to +225° F  
 Packing ..... See "Determining the Model Number" Options  
 Plunger ... 17-4PH S.S. or Ceramic Ctd.  
 Piston ..... See Table 1  
 Speed ..... 4 to 50 Strokes Per Min.  
 Stroke ..... 1/8" to 1"  
 Output Volume ..... See Table 1  
 Gas Consumption ..... See Table 2

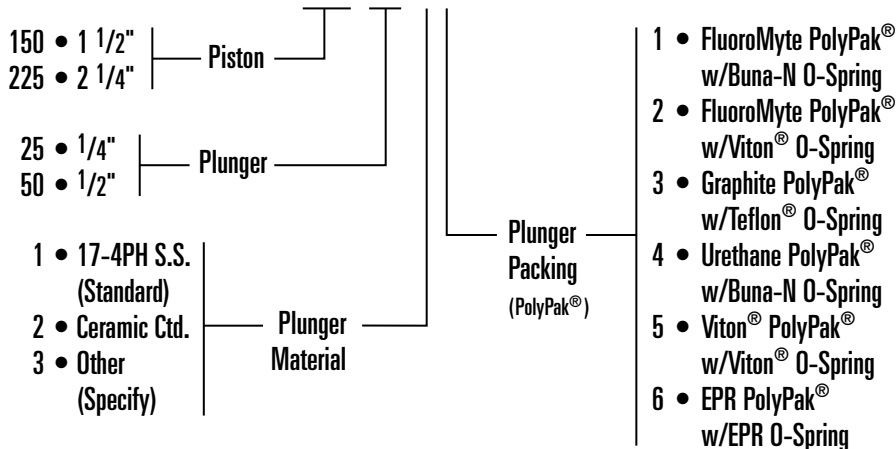


## Dimensional Data



**Determining the Model Number:** Example Given: Model CIP with 1 1/2" Piston, 1/4" Plunger, (Standard) 17-4PH Stainless Steel Plunger Material and FluoroMyte PolyPak® Packing with Buna-N O-Rings. Consult factory for other materials.

### MODEL CIP150-25-1 1



**Table 1. Output Volume**

Model	Plunger	Piston	Power Ratio	Stroke Length Maximum	Volume Per Stroke CC	Strokes Per Min.	Maximum Discharge Pressure	Output Volume Per Day
CIP150-25	1/4"	1 1/2"	35:1	1/8"-1"	0.80	4-50	3000	15.26 GAL
CIP225-25	1/4"	2 1/4"	80:1	1/8"-1"	0.80	4-50	6500	15.26 GAL
CIP225-50	1/2"	2 1/4"	20:1	1/8"-1"	3.2	4-50	1700	61.05 GAL

**Table 2. Gas Consumption Formula**

$$SCFD = P_v \times \frac{\text{Supply Pressure} + 15}{15} \times \text{strokes per min} \times 1440$$

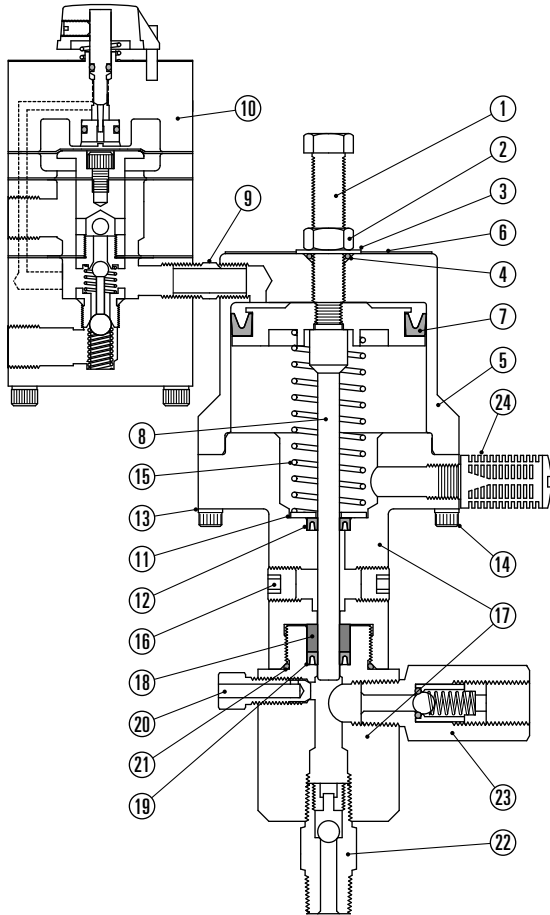
Where  $P_v = 0.0011$  for 1.5" piston Model CIP 150  
 $P_v = 0.0023$  for 2.25 piston Model CIP 225

Example: 20 strokes per min. with 45 psi supply on CIP 150

$$SCFD = .0011 \times \frac{45 + 15}{15} \times 20 \times 1440$$

$$SCFD = 126.72 \text{ SCFD}$$

# CIP Chemical Injection Pump



## CIP Injection Pump Parts List

Item	Description	Qty.	Part No.		
			CIP150-25	CIP225-25	CIP225-50
1	STROKE ADJUSTER	1	05000-5660	05000-5694	05000-5694
2	LOCK NUT	1	05000-2559	05000-1957	05000-1957
3	THREAD SEAL	1	06000-8527	06000-8528	06000-8529
4*	O-RING	1	05000-0033	05000-0066	05000-0066
5	PISTON CAP	1	05013-1540	05013-1733	05013-1733
6	DATA PLATE	1	06000-8050	06000-8084	06000-8084
7*	U CUP-PISTON	1	06000-7951	06000-8076	06000-8076
8*	PLUNGER/PISTON ASSY, 17-4PH S.S. (STD.)	1	06500-7029	06500-7025	06500-7021
	PLUNGER/PISTON ASSY, CERAMIC CTD.	1	06500-7027	06500-7023	06500-7020
9	PIPE NIPPLE	1	006312-P	006312-P	006312-P
10*	TIMER ASSEMBLY, W27	1	06500-7400	06500-7400	06500-7400
11	WASHER	1	05010-4116	05010-4116	06000-8141
12*	POLYPAK®	1	06000-7976	06000-7976	06000-8133
13*	LOCK WASHER	6	05000-5677	05000-5677	05000-5677
14	SOCKET HEAD SCREW	6	05000-5644	05000-5644	05000-5644
15*	SPRING, ENDUROBOND™ COATED	1	06000-8069	06000-8069	06000-8069
16	PIPE PLUG	2	002303-P	002303-P	002303-P
17	BODY/FLUID END ASSY.	1	06500-5834	06500-5915	06500-5999
18*	SPACER	1	05013-1765	05013-1765	05013-1926
19*	FLUOROMYTE/BUNA-N (1)	1	06000-8158	06000-8158	06000-8644
	FLUOROMYTE/VITON® (2)	1	06000-7969	06000-7969	06000-8125
	GRAPHITE/TEFLON® (3)	1	06000-8997	06000-8997	06000-9032
	URETHANE/BUNA-N (4)	1	06000-7976	06000-7976	06000-8133
	VITON®/VITON® (5)	1	06000-9082	06000-9082	06000-9169
	EPR POLYPAK® (6)	1	10341	10341	06000-9235
20	BLEED SCREW	1	05013-1558	05013-1558	05013-1558
21*	O-RING, BUNA-N	1	05000-0082	05000-0082	05000-0108
	O-RING, VITON®	1	05000-5610	05000-5610	05000-0835
22*	SUCTION CHECK VALVE	1	06500-5907	06500-5907	06500-6018
22A	CHECK VALVE BODY	1	05013-1566	05013-1566	05013-1934
22B	BALL RETAINER	1	05013-1574	05013-1574	05013-1942
22C	BALL	1	06000-0265	06000-0265	06000-0275
23*	DISCHARGE CHECK VALVE	1	06500-5890	06500-5890	06500-5890
23A	CHECK VALVE BODY	1	05013-1682	05013-1682	05013-1682
23B	O-RING RETAINER	1	05013-1690	05013-1690	05013-1690
23C	O-RING, TEFLON®	1	05000-0025	05000-0025	05000-0025
23D	BALL	1	06000-0265	06000-0265	06000-0265
23E	SPRING	1	A18-1Y	A18-1Y	A18-1Y
23F	SPRING RETAINER NUT	1	05013-1708	05013-1708	05013-1708
24	MUFFLER	1	06000-8166	06000-8166	06000-8166

\*Recommended Spare Part

### Complete Standard Repair Kit (17-4PH Plunger)

Model	Part No.
CIP150-25	03500-1922
CIP225-25	03500-1930
CIP225-50	03500-1948

Repair Kit (Major): Item 3, 4, 7, 8, 10, 12, 15, 18, 19, 21, 22, 23

### Standard Repair Kit Without Timer, Suction & Discharge Valve

Model	Part No.
CIP150-25	03500-1956
CIP225-25	03500-1964
CIP225-50	03500-1972

Repair Kit (Minor): Item 3, 4, 7, 8, 12, 15, 18, 19, 21

## W27 Timer Assembly Parts List (Item No. 10 from above)

Item	Description	Qty.	Part No.	Item	Description	Qty.	Part No.
1	BODY	1	05013-3532	14	SPRING, LOWER	1	06000-8876
2	CAP	1	05013-3455	15	PILOT PLUG	1	06500-6468
3	SPOOL, UPPER	1	05013-3463	16*	O-RING	1	05000-0066
4	SPOOL, LOWER	1	05013-3473	17	ADJUSTING NEEDLE	1	05013-2837
5	SPACER	1	05013-3480	18*	O-RING	1	05000-0009
6	DIAPHRAGM PLATE	1	05013-3498	19*	O-RING, TEFLON®	1	05000-5828
7	SEAT, UPPER	1	05013-3507	20	SEAT	1	05013-3835
8	SEAT, LOWER	1	05013-3514	21	LEGEND PLATE	1	06000-8560
9*	DIAPHRAGM, UPPER	1	05013-3548	22	SPRING	1	06000-8610
10*	DIAPHRAGM, SNAPPER	1	05013-3556	23	PIN	1	05013-2911
11*	DIAPHRAGM, LOWER	1	05013-3566	24	KNOB	1	10898
12	SOCKET HD. SCREW	1	05000-5910	25	SOCKET HD. SCREW	4	05000-5902
13	SPRING, UPPER	1	06000-8892	26	WASHER	4	05000-5836

\*Recommended Spare Part

### W27 Timer Repair Kits

Type	Part No.	Type	Part No.
MAJOR REPAIR KIT	03500-7402	MINOR REPAIR KIT	03500-7401

Repair Kit (Major): Item 7, 8, 9, 10, 11, 13, 14, 15, 16, 18, 19

Repair Kit (Minor): Item 9, 10, 11, 16, 18, 19

