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# CARTRIDGE PUMP

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MODEL EP1310C

◀OPERATION MANUAL▶



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Please read the manual before installation and  
maintenance

## SECTION 1

### GENERAL SAFETY WARNINGS

#### 1. Equipment Misuse Hazards



Any misuse of the dispensing equipment or accessories such as over-pressurizing, modifying parts, using incompatible chemicals and fluids, or using worn or damaged parts, can cause item to rupture and result in fluid splashing in the eyes or on to the skin.

Never alter or modify any part of this equipment, doing so could cause it to malfunction.

Check all dispensing equipment regularly and repair, or replace worn or damaged parts immediately.

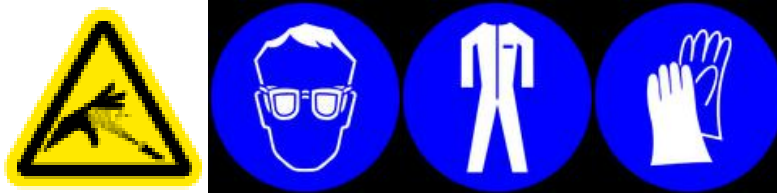
Always wear protective eyewear, gloves and clothing, as recommended by the material and solvent manufacturers.

Never exceed the maximum air inlet pressure of 7 bar (100 psi).

Do not exceed the maximum working pressure of any component or accessory used in the system.

Be sure that all materials and solvents used are chemically compatible with the wetted parts. Always read the manufacturer's literature before using material or solvent in this pump.

## 2. Hose Safety – High Pressure Hazards



High pressure fluid in the hoses can be very dangerous. If the hose develops a leak, split or rupture due to any kind of wear, damage or misuse, the high pressure spray emitted from it can cause material to splash in the eyes or on the skin. Tighten all fluid connections securely before each use. High pressure fluid can dislodge a loose coupling or allow high pressure spray to be emitted from the coupling.

Never use a damaged hose. Before each use, check the entire hose for cuts, leaks, abrasion or damage or movement of the hose couplings. If any of these conditions exist, replace the hose immediately.

Do not try to re-couple high pressure hose or mend it with tape or any other device. A repaired hose cannot safely contain the high pressure fluid.

Handle and route hoses carefully, do not pull on hoses to move equipment. Do not use materials which are not chemically compatible with the hose.

### 3. Moving Parts Hazards



In order to lessen the danger of an accident, keep hands and fingers away from the priming piston while the pump is installed and while air is introduced to the pump.

Always follow the procedure of depressurizing the system before disassembling and/or servicing the machine.

The air motor, the fluid area of pump and the motor will move whenever the machine is activated. Keep hands and fingers away from the air motor during the priming and installation of the pump.

Keep hands away from the edge of the ram or the pump bracket, hose and pad plate.

All moving parts are covered by guards. The guards are removable for machine setting and maintenance. Whenever these guards are removed for setting or maintenance keep hands clear of any moving parts and pinch hazards.

#### 4. Fire and Explosion Hazards



Static electricity may occur while fluid is in circulation through the pump and hose.

When not properly grounded, a spark may occur which can be dangerous. It can occur whether the power cord is plugged or not. This spark may ignite any solvent, dust particles and other combustible materials in or near the machine and may cause fire, explosion, or serious injuries.

If you are shocked (even by a little) during the installation or normal operation, stop dispensing immediately. Ground yourself properly to discharge any static buildup. Do not use the equipment until the problem is completely checked and safety is secured.

## SECTION 2

### INTRODUCTION

The EP1310C is a powerful medium ratio system for controlled fluid transfer from 1/10<sup>th</sup> gallon (310ml) plastic cartridges – suitable for silicone-type fluids. The system integrates a low-pulse pump design that can be used with a manual hand valve or connected to an automatic production robot for controlled dispensing applications.

The EP1310C is designed to easily transfer material for controlled dispensing via a high pressure valve. The suitable viscosity range is 5,000cps – 600,000cps. Rated at 15:1, the system provides a maximum of 996psi regulated material pressure. The cartridge is contained with a metal jacketed cylinder.



**SECTION 3****SPECIFICATION**

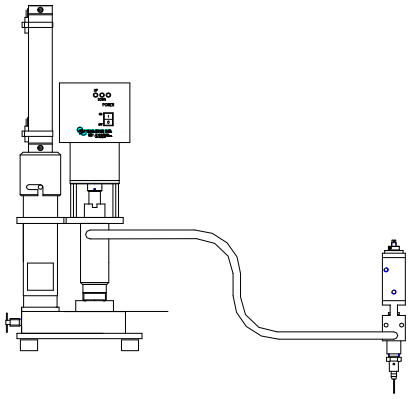
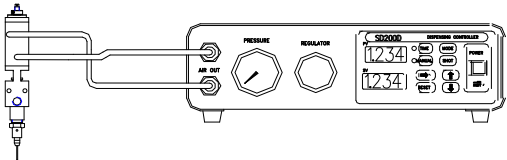
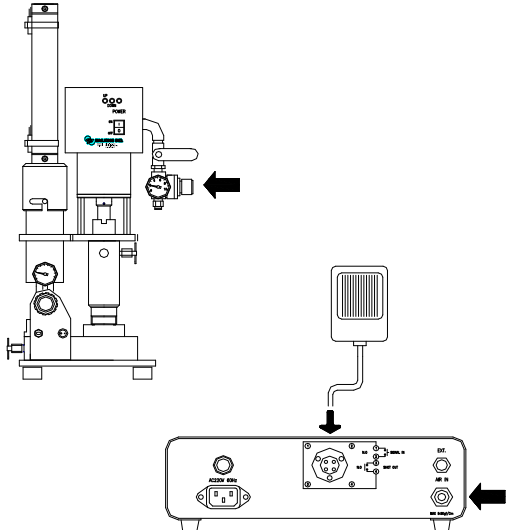
Power Requirements	220VAC $\pm$ 10%, 50-60Hz
Power Consumption	10W
Max Air Inlet	9.9kgf/cm <sup>2</sup>
Pump Ratio	15:1
Weight	15kg
Temperature Range	-5°C ~ 40°C
Dimension	225mm (W) 170mm (D) 649mm (H)



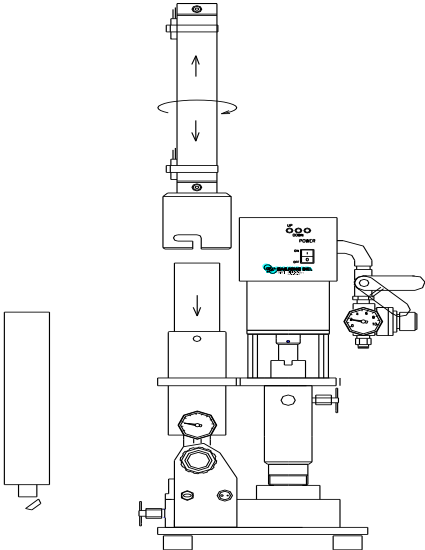
**SECTION 4**

**INSTALLATION / SET-UP / OPERATION**

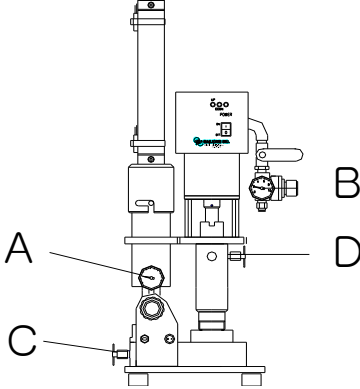
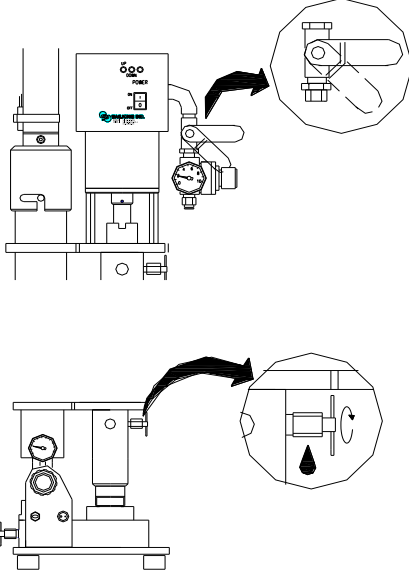
**1. Installation**

<b><u>No</u></b>	<b><u>Air Line Connections</u></b>	
1	<p>Connect one end of the fluid line to the fluid inlet of the dispensing valve and the other to the fluid outlet of the pump.</p> <p>Please refer to the valve manual for additional information.</p>	
2	<p>Connect air inlet of dispensing valve and air outlet of controller with connect tube.</p> <p>Please refer to the valve and controller manual for additional information.</p>	
3	<p>Connect the air supply to the pump</p>	
4	<p>Connect the air supply to the dispensing controller.</p>	
5	<p>Connect the foot pedal to the controller I/O.</p> <p>Please refer to the controller manual for additional information.</p>	

2. Set-Up

<u>No</u>	<u>Installing / Replacing the Cartridge</u>	
1	Turn the cartridge holder counter clockwise and pull to remove.	
2	Insert the cartridge with the outlet facing down.	
3	Replace the cartridge holder. Turn in clockwise direction to lock and secure.	

3. Operation

No	<u>Operation</u>	
1	Set the main air regulator (A) to the required dispense pressure.	
2	Open the bleed port (C) to extract bubbles and close slowly.	
3	<p>Set air pressure over 30psi with air regulator (B).</p> <p>Open the air valve slowly until material starts flowing.</p> <p>If the does not stop running, open the bleed port (D) to let trapped air out.</p> <p>Replace the bleed port when completed.</p>	

## SECTION 5

### TROUBLESHOOTING



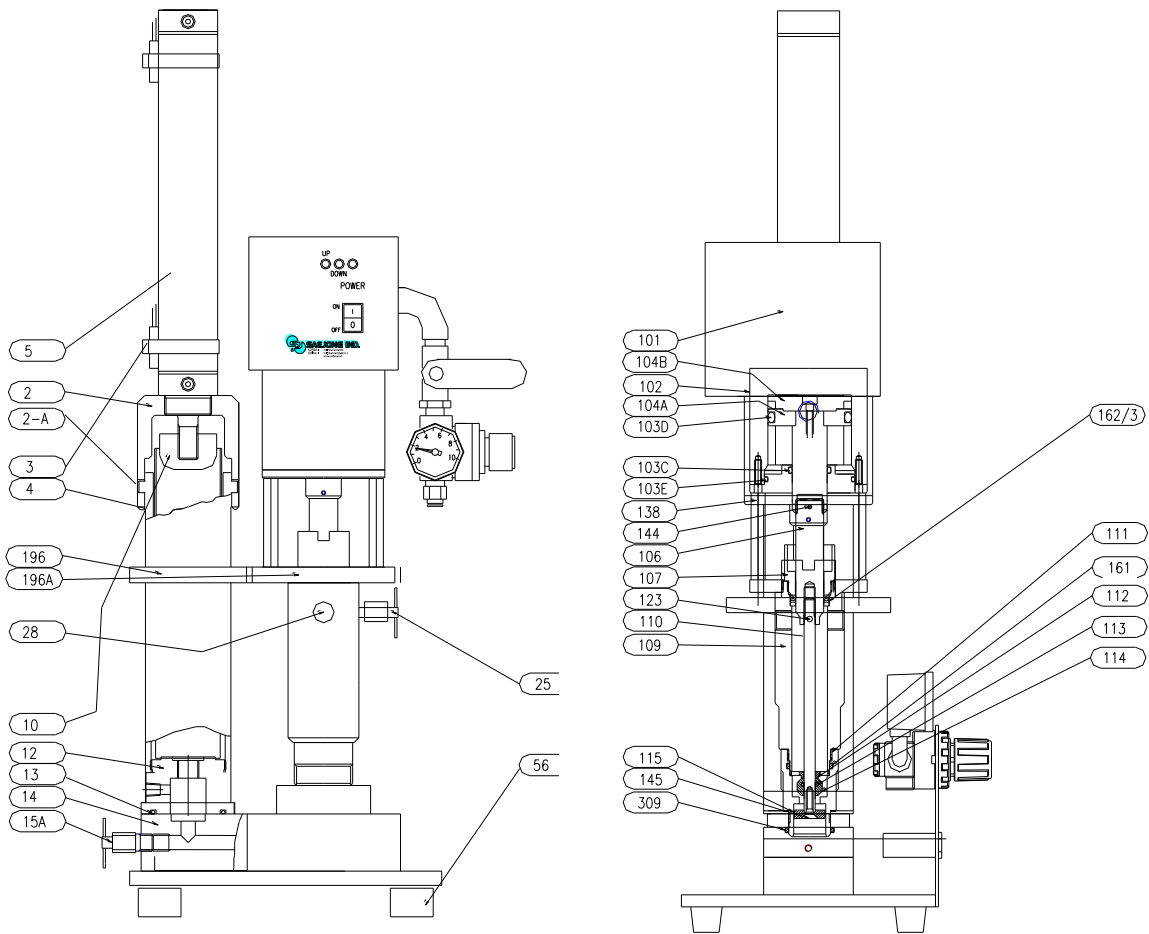
**ISOLATE ALL AIR AND MATERIAL FEEDS FROM THE PUMP PRIOR TO SERVICING.**

<p>Pump does not work.                  Pump stroke is short.                  Flow rate is slower than usual                  Pump actuates quickly.                  Pump does not go up &amp; down.</p>		
<b>Probable Cause</b>	<b>Recommended Maintenance</b>	
Insufficient air pressure Defective air valve Defective regulator pressure Insufficient material Clogged hose Change in material property Trouble in magnetic sensor Worn piston rod Worn intake valve		Clear the air hose Replace the air valve Replace the regulator Replace the cartridge Replace the hose Increase the dispense pressure Adjust the sensor position Clean and lubricate the rod Clean and rebuild the valve

**SECTION 6**

**EXPLODED VIEW AND PARTS LIST**

**1. Main Body**



<b>Part No.</b>	<b>Description</b>	<b>Material</b>	<b>Quantity</b>
2	CARTRIGE CAP	AL6061	2
2-A	O-RING	NBR	2
3	SENER MAGNET	BS	2
4	HOLDER PIPE	STS304	2
5	SENER MAGNET	BS	3
8	BALL VALVE	BS	1
10	PIN CONNECTOR	STS304	2
12	INLET HOUSING	AL6061	2
13	O-RING	NBR	3
14	MANIFOLD	AL6061	2
15A,B	BLEED COCK	BS	2
25	BLEED COCK	BS	1
27A,B,C	REGULATOR SET	TACO	3
28	ELBOW	BS	1
56	FOOT	BS	4
70	BASE PLATE	AL6061	1
101	CAP	STS	1
102	CYLINDER	AL6061	1
103A,B,C	O-RING	NBR	3
104A,B	PISTON	AL6061	1
106	ROD	SM45C	1
107	WET CUP	STS304	1
109	HOUSING ROD	AL6061	1
110	PRIMING ROD	SM45C	1
112	STOPPER	STS304	1
113	O-RING	NBR	1
114	INTAKE VALVE	ACETAL	1
115	PRIMING ROD	STS304	1
123	PIN	SPRING	1
138	SCREW HEX	BS	3
144	SCREW	STS	1
145	SCREW	STS	1
161	O-RING	NBR	1
162,3	V-PACKING	TEFLON	1
196	HOLDER BRAKET	AL6061	1
196A	BLAKET CLAMP	AL6061	2



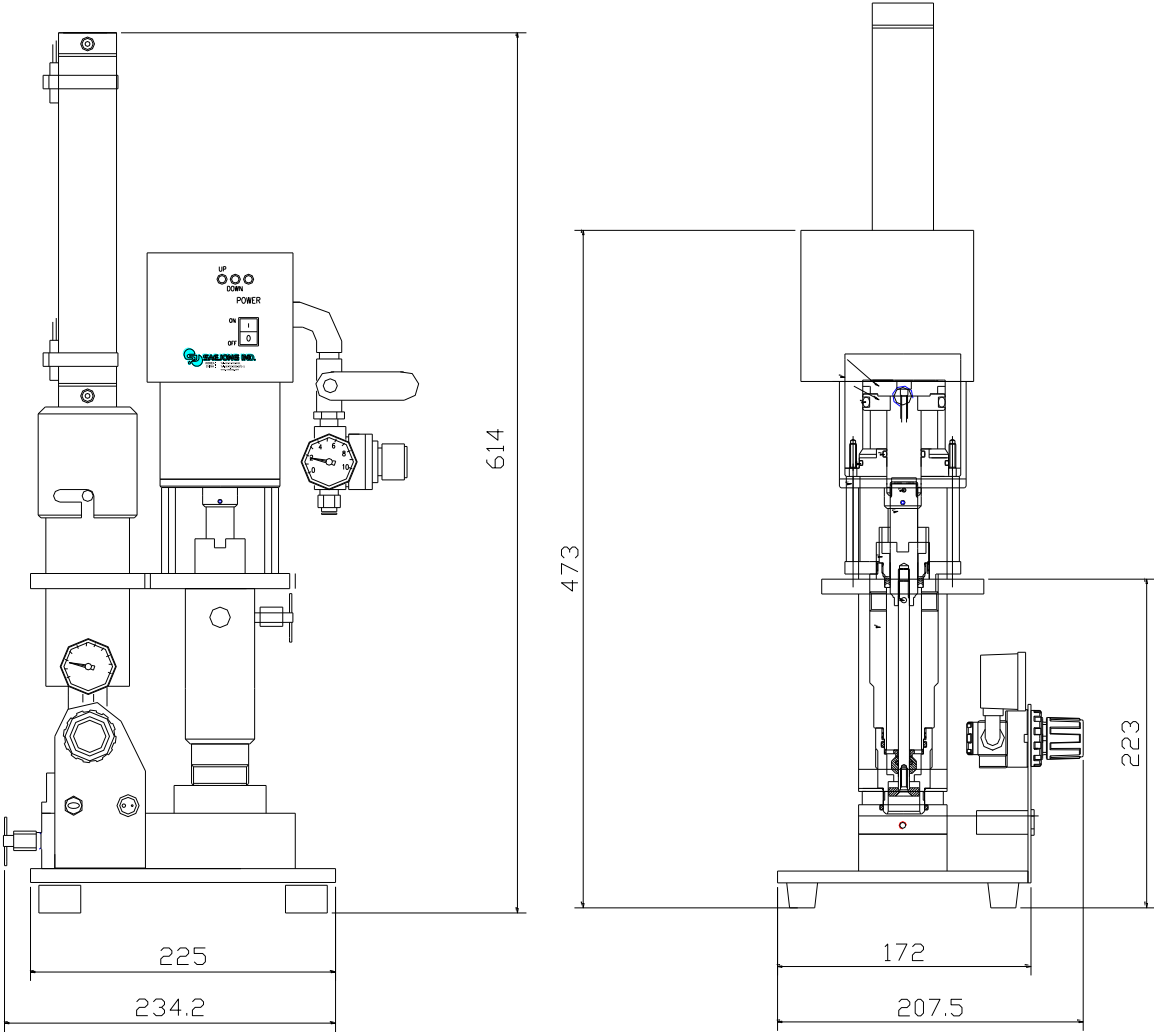
Part No.	Description	Size
101-1	PUMP HEAD BOX COVER	
191	PUMP HEAD PCB	
101-2	LED LAMP(G.Y.R)	
192	SPACE BAR-1	M3*10
101-3	PCB PLATE	
165	SOLENOID VALVE	SY5140-5LZ(SMC)
101-5	POWER CORD	2P 220V
101	PUMP HEAD BOX COVER	
101-6	POWER SWITCH	KCD11(RED)
101-7	FUSE(MEDIUM)	10A 250V AC중(FS-15)
101-8	POWER CORD HOLDER	10A 250V AC
100	PUMP HEAD SENSOR	D-W13(TPC)
102	PUMP HEAD CYLINDER-1	60Ø
102-1	PUMP HEAD CYLINDER-2	80Ø
84	FITTING	KQ2L08-02S
104-1	PUMP HEAD UPPER PISTON	60Ø
104-1-1	PUMP HEAD UPPER PISTON	80Ø
104-2	PUMP HEAD PISTON	60Ø
104-2-1	PUMP HEAD PISTON	80Ø
104-3	PUMP HEAD PISTON MAGNETIC	60Ø
104-3-1	PUMP HEAD PISTON MAGNETIC	80Ø
103-2	O-RING	60Ø
103-2-1	O-RING	80Ø
103-3	O-RING	60Ø
103-3-1	O-RING	80Ø
104	PUMP HEAD CYLINDER SHAFT	
144	WITHOUT HEAD BOLT	
103-4	O-RING	60Ø
103-4-1	O-RING	80Ø
103-5	O-RING	60Ø
103-5-1	O-RING	80Ø
105	PUMP HEAD CYLINDER UNDER CAP-1	60Ø
105-1	PUMP HEAD CYLINDER UNDER CAP-1	80Ø
140	PUMP HEAD BASE PLATE	60Ø
140-1	PUMP HEAD BASE PLATE	80Ø
138	SUPPORT BAR	
106	PUMP SHAFT-1	



<b>Part No.</b>	<b>Description</b>	<b>Size</b>
106-1	PUMP SHAFT-2	
106-2	PUMP SHAFT-3	
106-3	PUMP SHAFT-4	
123	SPRING PIN	3Ø, 15
110	PUMP UNDER SHAFT	
107	OIL CUP	
107-1	O-RING	G40
108	PUMP V-PACKING PUSHER-1	
108-1	PUMP V-PACKING PUSHER-2	
108-2	PUMP V-PACKING PUSHER-3	
108-3	PUMP V-PACKING PUSHER-4	
196	PUMP FLUID HOUSING BASE-1	
196-1	PUMP FLUID HOUSING BASE-2	
196-2	PUMP FLUID HOUSING BASE-3	
196-3	PUMP FLUID HOUSING BASE-4	
163	PUMP FLUID V-PACKING-1	
163-1	PUMP FLUID V-PACKING-2	
163-2	PUMP FLUID V-PACKING-3	
109	PUMP FLUID HOUSING-1	
109-1	PUMP FLUID HOUSING-2	
109-2	PUMP FLUID HOUSING-3	
109-3	PUMP FLUID HOUSING-4	
25	AIR EGEST	
161	O-RING	P28(NBR)
112	PUMP FLUID, LOW CHECK STOPPER	
113	O-RING	P8N
114	PUMP FLUID LOW CHECK	
111	PUMP FLUID UNDER HOUSING	
115	PRIMING	
135	PLAIN WASHER	M5
145	PLATE HEAD BOLT	M5*10
312	TWO NIPPLE 1/4	1/4 SUS
311	CHECK VALVE 1/4	1/4 (VITON)

**SECTION 8**

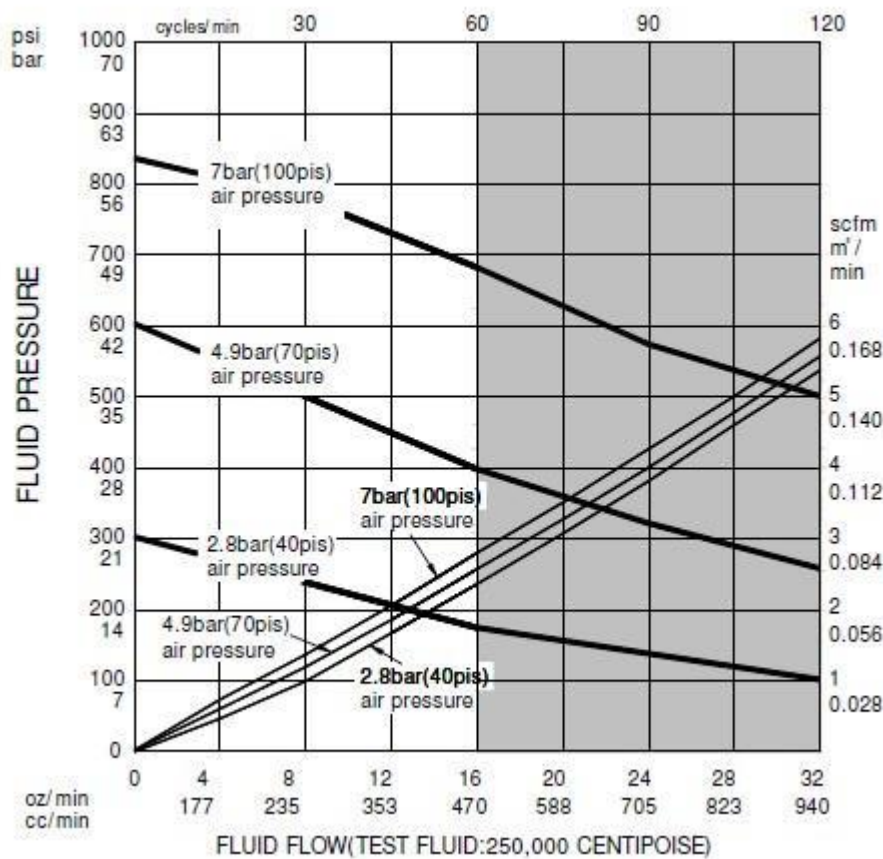
**DIMENSIONS**



**SECTION 9**

**TECHNICAL DATA**

Maximum fluid dispensing pressure - - - - - 60Kg/Cm  
 Air pressure range input - - - - - 1.8~7.0Kg/Cm  
 Maximum fluid viscosity - - - - - 600,000 cps  
 Dispensing volume per a stroke - - - - - 5.0cc  
 Maximum fluid speed (250,000 cps fluid)- - - - - 940 cc/min  
 Maximum stroke - - - - - 19 mm  
 Maximum temperature for operating the pump - - - - - 60°C  
 Air pressure inlet - - - - - o 6 mm  
 Fluid outlet - - - - - 1/4 NPT  
 Weight - - - - - 24 Kg



Fluid outlet pressure - black curves / Air pressure - gray area