

- 70-252 -DD PUMP**
- 70-1101 - WALL MOUNT**
- 70-1102 - CART MOUNT**
- 70-1103 - 5 GAL PAIL MOUNT**
- 70-1104 - 5 GAL PAIL MOUNT W/ AIR AGITATOR**
- 70-1105 - 55 GAL PAIL MOUNT**
- 70-1106 - 55 GAL PAIL MOUNT W/ AIR AGITATOR**

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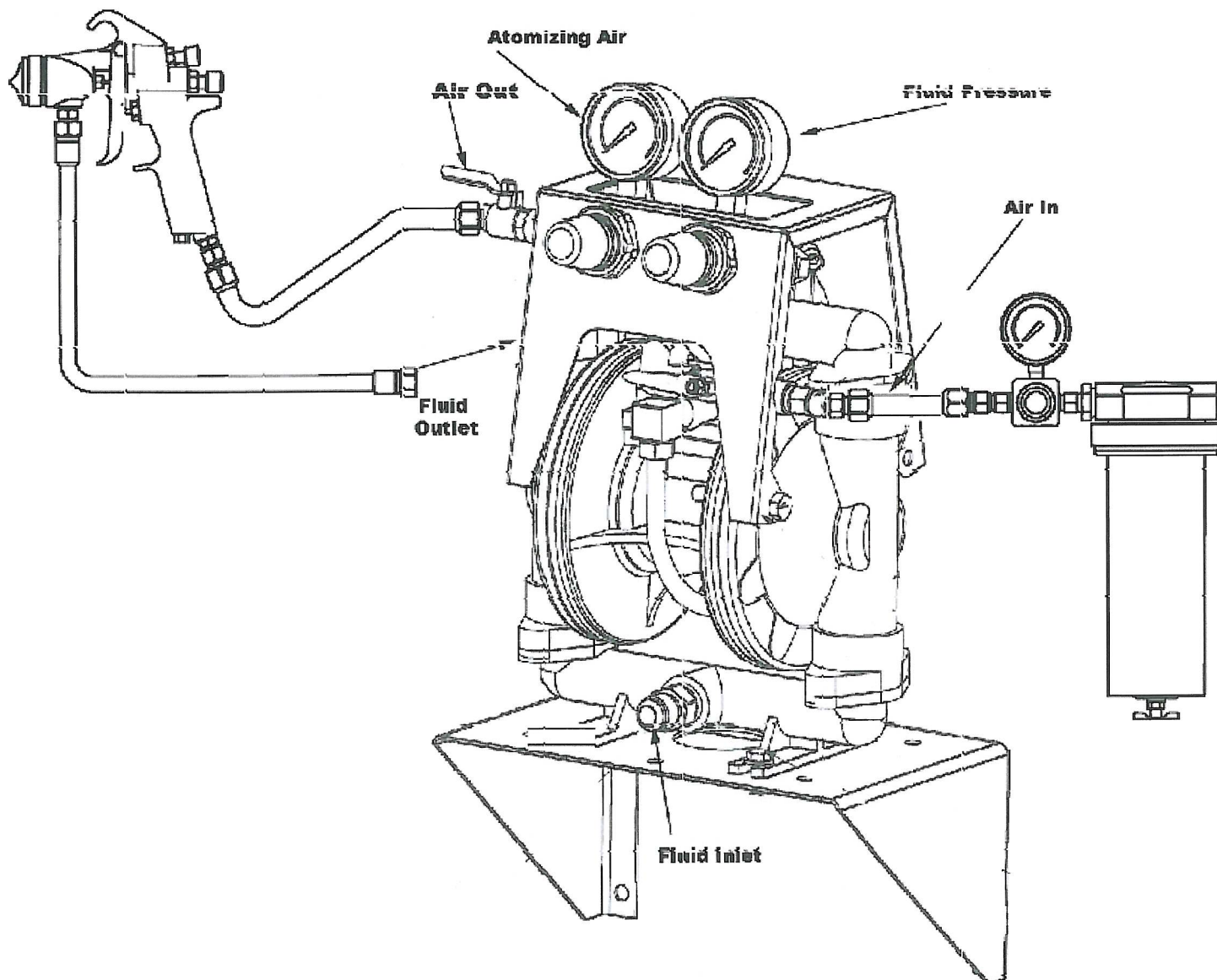
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Installation

The CAT Pump comes with a footed base for easy mounting in permanent installations. The pump should be mounted in a vertical position. In permanent installations, the pump should be attached to plant piping using a flexible coupling on both the intake and discharge connections to reduce vibration to the pump and piping. To further reduce vibration, a surge suppresser next to the pump may be used.

suction pipe size should be at least 1/2 inch in diameter or even larger if highly viscous fluid is to be pumped. If suction hose is used, it must be of a non-collapsible reinforced type. Discharge piping should be of at least 1/2 inch. It is critical, especially on the suction side of the pump, that all fittings and connections are airtight or pumping will be reduced and priming will be difficult.

The air supply line should be at least 3/8 -inch diameter. Make certain the supplying line and compressor are capable of supplying the required pressure and volume of air to operate the pump at the desired flow rate. The quality of the compressed air source should be considered. Air that is contaminated with moisture and dirt may result in erratic pump performance and increased maintenance cost as well as frequent process "down time" when the pump fails to operate properly.



Flow Rate Adjustable 0-14 gpm(53lpm)

Port Size:

Inlet & Outlet.....1/2" NPT

Air Inlet.....3/8" NPT

Air Exhaust.....3/8" NPT

Suction Lift.....20' (6.09m) Dry

.....25' (7.62m) Wet

Teflon.....5' (3.04m) Dry

.....20' (6.09m)Wet

Max. Particle Dia.....0625" (1.6mm)

Pump Operation

the pump is powered by compressed air. Compressed air is directed to the pump air chamber by the main air valve. The compressed air is separated from the fluid by a membrane called a diaphragm. The diaphragm in turn applies pressure on the fluid and forces it out of the pump discharge. While this is occurring, the opposite air chamber is de-pressurized and exhausted to atmosphere and fluid is drawn into the pump suction. The cycle again repeats, thus creating a constant reciprocating action that maintains flow through the pump. The flow is always in through the bottom suction connection and out through the top discharge connection. Since the air pressure acts directly on the diaphragms, the pressure applied to the fluid roughly approximates the air supply pressure supplied to the main air valve.

Trouble Shooting

The pump will not run, or runs slowly:

1. Check the sticking air valve. Remove air valve from pump and flush with solvent to remove dirt and debris. Check spool, u-cup, and air valve bore for nicks and scratches; replace if needed. Clean all ports and replace air valve gaskets and u-cups.
2. Check pilot shaft and main shaft for scoring and scratches; replace if needed. Replace the pilot shaft and main shaft o-rings if they are worn, flat, or torn.

The pump runs, but little or no material flows:

1. Check for pump cavitation, slow the pump speed down to match the thickness of the material being pumped.
2. Look for sticking ball checks. If the material being pumped is not compatible with the ball material, the elastomer may swell. Replace the balls and seats with a compatible elastomer type. Check valve seats and if worn or damaged replace with new ones.
3. Make sure all the suction line fittings and connections are airtight.

Air bubbles in pump discharge

1. Look for ruptured diaphragm.
2. check for suction leaks in pump manifolds and piping

Material comes out of the pump air exhaust

1. inspect the diaphragm for rupture.
2. check the tightness of the diaphragm plates to the pump shaft.

HAZARD WARNINGS

This equipment may generate fluid Pressures equal to the air supply pressure. **NEVER** exceed the recommended air supply pressure of 100 psi (6.8 bar).

ALWAYS shut-off air supply and Disconnect from the pump before Performing repair or Maintenance to the pump.

DO NOT put your face or body near the pump air exhaust while the pump is operating.

Bleed all pressure from the discharge and suction lines before disconnecting the fluid suction or discharge lines from the pump.

DO NOT operate a pump that is leaking, damaged, corroded or otherwise unable to contain the Internal fluid pressure.

ALWAYS make sure safety shut-off valves, regulators, pressure relief valves, etc. are working properly before starting pump.

Fire or Explosion Hazard

Static electricity can be created by the flow of fluid through the pump or by the reciprocating action of A.O.D. pumps. If the pumps is not properly grounded, sparking may occur, and the system may become hazardous. Sparks can ignite fumes or vapor and cause an explosion.

If you experience static sparking or even a slight shock when using the pump do not continue to operate the pump until the pump is properly grounded.

Proper Grounding

Pump, Valves, Discharge and supply lines as well as containers must be grounded. These items must be grounded when handling flammable fluids and when static electricity discharge is a hazard. To ground metallic pumps, connect a ground wire to any accessible point of attachment such as clamp band or mounting base.

DO NOT pump incompatible fluids through the pump. Consult your distributor or the factory if you are unsure of compatibility of fluids with pumps materials of construction.

C. A. TECHNOLOGIES pumps are designed to operate on compressed air. Other gases have not been tested and may be unsafe to use.

Before starting a pump make certain the discharge point of the piping system is not obstructed and all persons have been warned to stand clear.

Any misuse of this equipment such as Over pressurization, modifying parts, pumping incompatible liquids, using worn or damaged parts or using gases other than compressed air to power the pump is not recommended. Any of these circumstances could result in splashing or spraying into the eyes, skin or possible serious bodily injury, fire, explosion or property damage.

NOISE – Wear proper ear protection when working or standing near A.O.D. pumps.

Pump Diaphragm Failure – A.O.D. Pumps utilize an elastomeric diaphragm to separate the pumping liquid from the air supply.

When this membrane ruptures pumping fluid may be expelled from the air exhaust port. Always pipe the air exhaust to a safe location or suitable container if dangerous liquids are being pumped.

Installation – Never allow the piping system to be supported by the pump manifolds or valve housing. The use of flexible piping connections is highly recommended.

Temperature Limits - The Groundable Acetal pump is designed to run between 10 degrees and 180 degrees F.

Static Electricity - Static electricity Can be created by the flow of fluid through the pump or by the reciprocating action. The Groundable Acetal Pump is provided with a grounding cable to eliminate the potential for static build-up. This cable must be grounded to an appropriate earth ground source for safe operation.

Sound Level Ratings

The following table lists the sound level ratings of C. A. Technologies pumps equipped with factory installed Air Exhaust Mufflers. The reading were obtained with a Pacer Industries model SL-120, sound level Indicator "A" scale. Readings were made at a distance 1 meter from the pump and a height of 1.6 meters above the floor using the factory supplied air exhaust muffler. It is assumed the pumps will be installed at floor level.

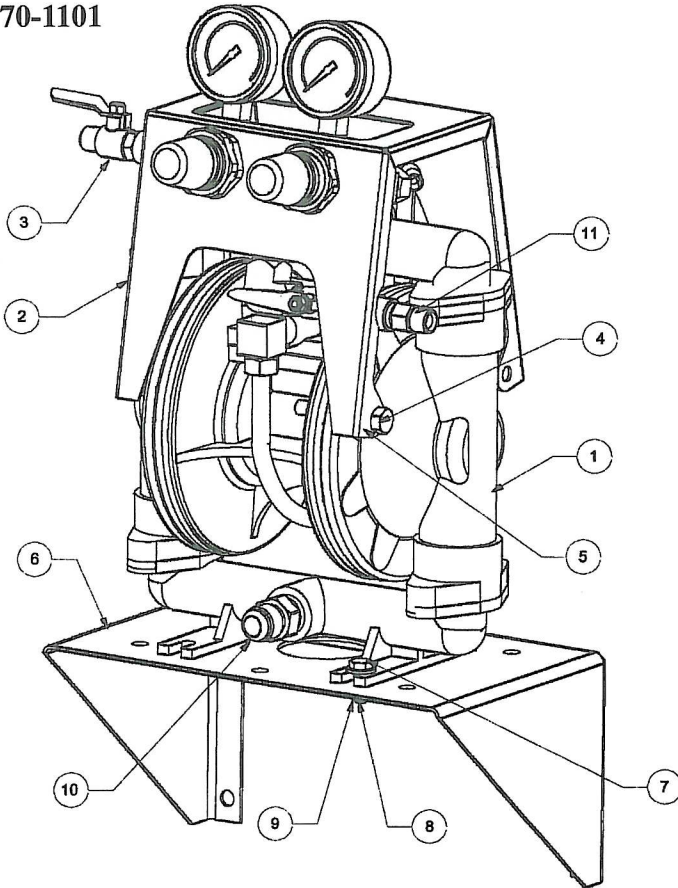
Pump series	dB(A) reading
E5, ½" pump	78.0 dB(A)

TEMPERATURE LIMITATIONS

Maximum Temperature limitation are based on mechanical stress only. Certain chemicals will reduce the maximum safe operating temperatures of A.O.D pumps. Consult your dealer or Chemical Resistance guide for compatibility and temperature limits.

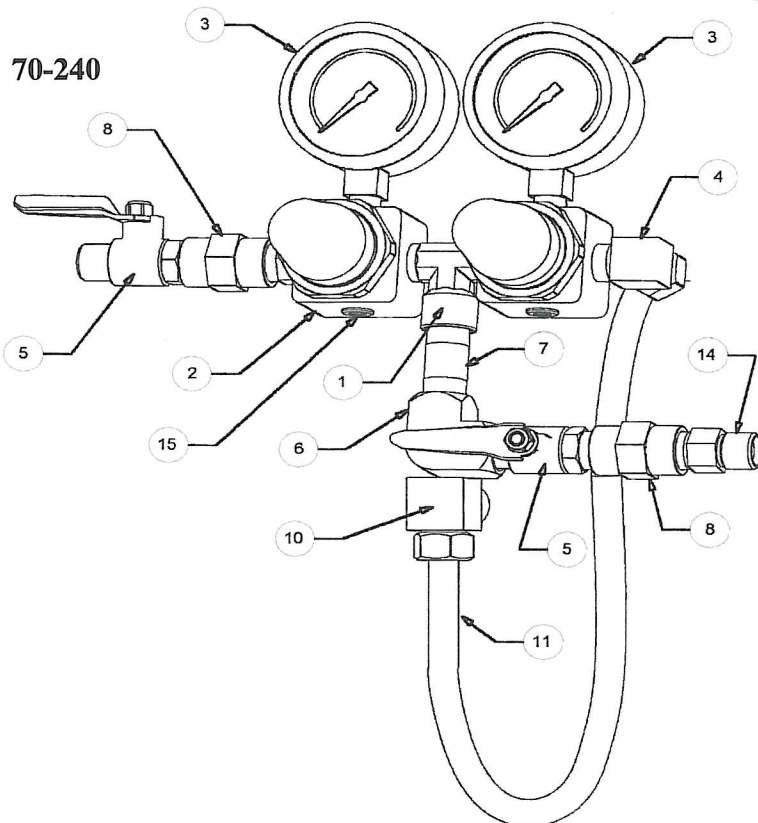
Double Diaphragm Pump Maintenance Information

70-1101



Item	Part No.	Description
1	70-252	SS DD Pump Ass'y
2	70-244	reg panel
3	70-240	Regulator Ass'y
4	98-0227	5/16 x 2 hex bolt
5	70-245	spacer
6	70-171	wall bracket
7	98-0189	1/4-20 x 3/4 bolt
8	98-0150	washer- 1/4 id
9	98-0149	Nylok nut 1/4
10	98-0228	flare fitting
11	53-562	SS nipple 1/4 NPS x 1/4 NPT
12	98-0239	SS bushing 1/4NPTx1/2NPT
13	53-555	SS fitting 3/8 NPSm-1/4NPTm
14	98-0238	SS elbow 1/4NPT
15	98-0237	SS nipple 1/4NPT x 1 1/2
16	98-0244	nipple SS 1/4 NPT x 3
17	98-0245	coupling SS 1/4 NPT

70-240



Item	Part Name
1	98-0225 Tee - Couplings 127VC
2	52-6 regulator
3	52-59 gauge 0-100
4	98-0166 elbow
5	52-150 ball valve 1/4 NPT
6	98-0176 elbow- 1/4 NPT
7	98-0163 nipple
8	98-0159 coupling
9	98-0215 nipple 1/4 NPT
10	98-0226 elbow 3/8 comp x3/8 NPT
11	53-23-18 hose
12	70-247 panel nut
13	98-0218 insert sleeve
14	53-562 or-552 nipple 1/4 NPT
15	98-0121 plug-1/8NPT
16	98-0163copy nipple 1_4NPTx 1 1.5

Double Diaphragm Pump Maintenance Information

70-1102 DD pump ass'y -cart mount	
Part Number	Part Name
70-180	Cart Assembly
70-181	CART
70-185	SUCTION TUBE HOLSTER
70-186	SPACER, SUCTION TUBE HOLSTER
70-121	WHEELS X2
98-0213	BOLT 5/16x 1 1/2 (X4)
98-0214	BOLT 5/16x 3 1/2
98-0146	5/16"-18 Ni-lok nut
98-0143	COTTER PIN X4
70-132	WHEEL WASHERS X4

70-1103 DD pump ass'y-5G pail cover	
Part Number	Part Name
70-252	SS DD Pump Ass'y
70-244	reg panel
70-240	Regulator Ass'y
98-0227	5/16 x 2 hex bolt
70-245	spacer
70-172	5 Gal. pail cover
98-0189	1_4-20 x 3_4 bolt
98-0150	washer- 1_4 id
98-0149	Nylok nut 1_4
53-555	outlet fitting- 3/8 NPS(m) x 1/4 NPT(m)
98-0239	bushing, 1/2 x 1/4 NPT Stainless
98-0238	elbow, 1/4 NPT stainless
98-0237	nipple, 1/4 NPT x 1 1/2" long -stainless
98-0236	St. El. 1/2 NPT -SS
74-541	pickup tube, 1/2" SS pipe
70-189	ground wire assembly

70-1104 DD pump ass'y - 5G pail cover - agitated	
Part Number	Part Name
70-252	SS DD Pump Ass'y
70-244	reg panel
70-240	Regulator Ass'y
98-0227	5/16 x 2 hex bolt
70-245	spacer
70-172	5 Gal. pail cover
98-0189	1_4-20 x 3_4 bolt
98-0150	washer- 1_4 id
98-0149	Nylok nut 1_4
51-240	AIR MOTOR
51-266	ROLL PIN
51-242	COUPLING
51-281	PACKING NUT - GUIDE
51-282	leather packing
51-283	teflon seal
51-286	AIR MOTOR BASE
51-259	nut, air motor base/ cover plug
51-272	1/4 NPT tee, (f) barstock pltd brass
53-562	1/4 NPS x 1/4 NPT (m) nipple -BRASS
51-247	SPEED CONTROL
70-230	AGIT SHAFT 5 GAL
51-246	agitator impeller w/ lock bolt
53-555	outlet fitting- 3/8 NPS(m) x 1/4 NPT(m)
98-0239	bushing, 1/2 x 1/4 NPT Stainless
98-0238	elbow, 1/4 NPT stainless
98-0237	nipple, 1/4 NPT x 1 1/2" long -stainless

70-1105 DD pump ass'y-55G drum cover	
Part Number	Part Name
70-252	SS DD Pump Ass'y
70-244	reg panel
70-240	Regulator Ass'y
98-0227	5/16 x 2 hex bolt
70-245	spacer
70-175	55 Gal. drum cover
98-0189	1_4-20 x 3_4 bolt
98-0150	washer- 1_4 id
98-0149	Nylok nut 1_4
53-555	outlet fitting- 3/8 NPS(m) x 1/4 NPT(m)
98-0239	bushing, 1/2 x 1/4 NPT Stainless
98-0238	elbow, 1/4 NPT stainless
98-0237	nipple, 1/4 NPT x 1 1/2" long -stainless
98-0236	St. El. 1/2 NPT -SS
74-542	pickup tube, 1/2" SS pipe
70-189	ground wire assembly

70-1106 DD pump ass'y - 55G pail cover - agitated			
Part Number	Part Name	Part Number	Part Name
70-252	SS DD Pump Ass'y	51-281	PACKING NUT - GUIDE
70-244	reg panel	51-282	leather packing
70-240	Regulator Ass'y	51-283	teflon seal
98-0227	5/16 x 2 hex bolt	51-286	AIR MOTOR BASE
70-245	spacer	51-259	nut, air motor base/ cover plug
		51-272	1/4 NPT tee, (f) barstock pltd brass
70-175	55 Gal. drum cover	53-562	1/4 NPS x 1/4 NPT (m) nipple -BRASS
		51-247	SPEED CONTROL
98-0189	1_4-20 x 3_4 bolt	70-231	AGIT SHAFT 55 GAL
98-0150	washer- 1_4 id	51-246	agitator impeller w/ lock bolt
98-0149	Nylok nut 1_4		
		53-555	outlet fitting- 3/8 NPS(m) x 1/4 NPT(m)
51-240	AIR MOTOR	98-0239	bushing, 1/2 x 1/4 NPT Stainless
51-266	ROLL PIN	98-0238	elbow, 1/4 NPT stainless
51-242	COUPLING	98-0237	nipple, 1/4 NPT x 1 1/2" long -stainless

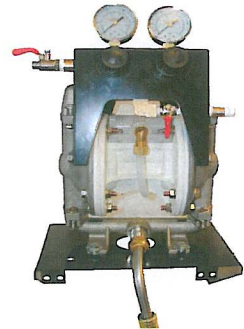
Repair Kits

- 10-122 **KIT - DIAPHRAGM PUMP SS BALLS**
- 10-123 **KIT - DIAPHRAGM PUMP**
- 10-124 **KIT - DD AIR VALVE ASSEMBLY**
- 10-125 **KIT - DD AIR VALVE KIT**
- 10-126 **KIT - DD TEFLON ENCAP. O RING**

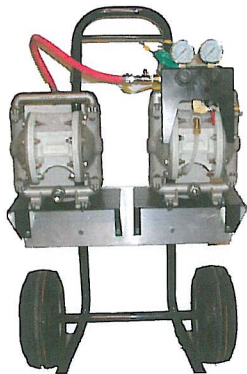
CAT DOUBLE DIAPHRAGM PUMPS



**70-252
DD Pump**



**70-1101
DD Pump - Wall Mount**



**70-1102
DD Pump - Cart Mount**



**70-1103
DD Pump - 5 Gal
Cover Mount**



**70-260
Manifold**



**70-1105
DD Pump - 55 Gal
Cover Mount**



**74-538
3/8" Siphon
Assembly**