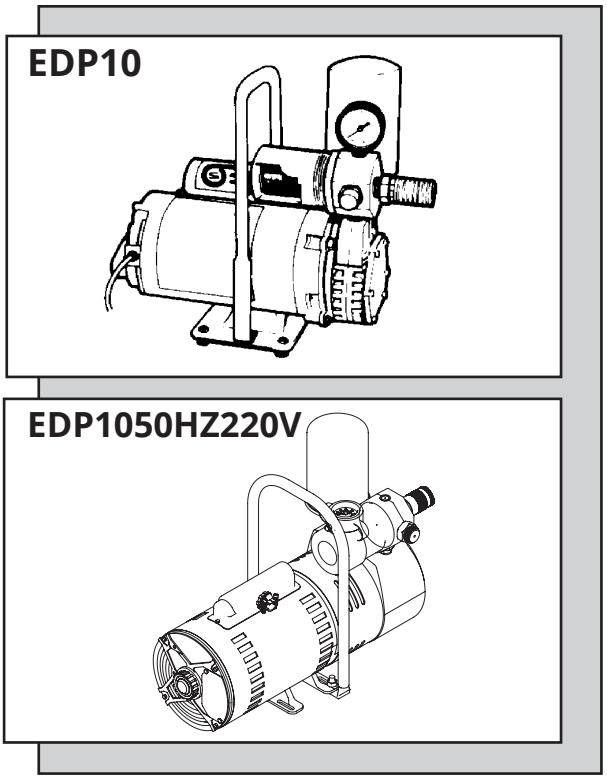
EDP10 and EDP1050HZ220V Free-Air® Pumps Instruction Manual



This Manual provides detailed instructions, warnings and other information for individuals using Bullard Free-Air Pump models EDP10 and EDP1050HZ220V.

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GENERAL INFORMATION

Bullard Free-Air pumps transfer ambient air from a clean air environment containing at least Grade D breathable air to workers wearing Type C or CE continuous-flow supplied air respirator hoods or tight-fitting half or full face masks. Bullard Free-Air pumps MUST be located in an environment containing at least Grade D breathable air at all times. These pumps do NOT create Grade D breathable air.

The ambient air is filtered through a medium efficiency inlet air filter and a Carbofine outlet filter before entering the respirator's air supply hose.

Bullard Free-Air pumps are oil-less and have rotary carbon vanes. They produce no carbon monoxide, oil vapors, oil mist or moisture. They do not require expensive carbon monoxide monitors, high temperature alarms or associated airline filters. No calibration is required.

The pumps will supply air to one worker. The chart below describes the pump model, the number of respirators each unit will supply and its maximum outlet pressure.

PUMP SPECIFICATION TABLE

Maximum Number of Respirators			
Pump Model No.	Hood Style	Full or Half-Mask	Maximum Outlet Air Pressure*
EDP10/ EP1050HZ220V	One	One	15 psig (1.03 bar)

* USE ONLY SUPPLIED-AIR RESPIRATORS THAT ARE APPROVED BY MSHA/NIOSH TO OPERATE AT LESS THAN 15 PSIG

⚠ WARNING

READ, UNDERSTAND AND FOLLOW ALL INSTRUCTIONS IN THIS MANUAL BEFORE USING FREE AIR® PUMP MODELS EDP10 or EDP1050HZ220V.

FAILURE TO OPERATE ANY OF THESE PUMPS IN ACCORDANCE WITH THE INSTRUCTIONS CONTAINED IN THIS MANUAL MAY RESULT IN DEATH OR SERIOUS INJURY TO THE RESPIRATOR WEARER. IMPROPER USE MAY ALSO CAUSE CERTAIN LIFE-THREATENING DELAYED LUNG DISEASES INCLUDING BUT NOT LIMITED TO SILICOSIS, PNEUMOCONIOSIS, OR ASBESTOSIS.

1. LOCATE THE PUMP'S INLET AIR FILTER IN A PLACE WHERE THERE IS A CONTINUOUS SUPPLY OF AT LEAST GRADE D BREATHABLE AIR, AS DEFINED BY THE COMPRESSED GAS ASSOCIATION COMMODITY SPECIFICATION G-7.1, AND AS SPECIFIED BY FEDERAL LAW 42 CFR PART 84, SUBPART J, 84.141(b), AND 29 CFR PART 1910, SUBPART I, 1910.134(i) AT ALL TIMES. THE PUMP DOES NOT REMOVE TOXIC GASES OR OTHER CONTAMINANTS FROM THE INCOMING AIR IT TRANSFERS TO THE RESPIRATOR WEARER.

   See the BREATHING AIR REQUIREMENTS section on page 3 for specific details on breathing air quality. THESE PUMPS DO NOT SUPPLY OXYGEN.

2. This pump will only supply the required volume of air [6-15 cfm (170-425 lpm) for hoods or 4-15 cfm (113-425 lpm) for tight-fitting half or full face masks] to low pressure continuous-flow supplied-air respirators approved by MSHA/NIOSH to operate at less than 15 psig (1.03 bar).

   Be sure that the pump's outlet pressure, measured by the pressure gauge on the pump, is maintained above the minimum pressure setting required by the respirator manufacturer and approved by MSHA/NIOSH.

   To be assured your respirator can be used with this pump refer to:

   a) The Pump Specification Table on page 1 for the maximum outlet pressure of the pump model you are using.

   b) The section in the respirator's instruction manual for the respirator's approved pressure range and permissible air supply hose lengths.

      If you have any questions about whether or not your respirator is compatible with this pump, contact Bullard Customer Service Department at 877-BULLARD (285-5273), or 859-234-6616.

3. Supplied-air respirators used with this pump must NOT be worn in any atmosphere immediately dangerous to life or health or from which the wearer cannot escape without the use of the respirator.

4. When connecting your respirator to the Free-Air® pump use only the air supply hose and couplers required by the respirator manufacturer and listed on the respirator's NIOSH Approval Label

   Use of non-approved hose or couplers will void the respirator's MSHA/NIOSH Approval and could reduce the air flow to the respirator, resulting in possible death or serious injury to the respirator wearer. The respirator wearer could also develop life-threatening delayed lung disease including but not limited to silicosis, pneumoconiosis or asbestosis.

5. DO NOT modify or alter this pump in any manner. Use only approved Bullard Free-Air pump components and replacement parts on the pump.

   Failure to use approved Bullard components and replacement parts invalidates all Bullard warranties, and may result in death or serious injury to the respirator wearer. The respirator wearer could also develop life-threatening, delayed lung disease including but not limited to silicosis, pneumoconiosis or asbestosis.

6. If you have any questions concerning the use of this pump or your respirator, or you are not sure the inlet filter is in an environment containing a continuous supply of at least Grade D breathable air, ask your supervisor before using this product. All instructions for the use and care of this product must be supplied to you by your employer as recommended by the manufacturer and as required by Federal Law 29 CFR Part 1910, Subpart I, 1910.134.

For technical assistance or additional copies of this manual, call Bullard Customer Service or go to www.Bullard.com to download a copy.

Bullard
1898 Safety Way
Cynthiana, KY 41031-9303
www.bullard.com

BREATHING AIR REQUIREMENTS

The Free-Air® pump's inlet filter must be located in a clean air environment containing a continuous supply of at least Grade D breathable air at all times.

The breathable air drawn into the inlet filter must meet at least the requirements for a minimum of Grade D breathable air as described in the Compressed Gas Association Commodity Specifications G-7.1 and as specified by Federal Law 42 CFR Part 84, Subpart J, 84.141(b) and 29 CFR Part 1910, Subpart I, 1910.134(i).
The requirements of Grade D breathable air include:

* Oxygen.....19.5 - 23.0 %
* Hydrocarbons (condensed) in mg/m_3 of gas..... 5 mg/m_3 maximum
* Carbon Monoxide.....10 ppm maximum
* Carbon Dioxide.....1,000 ppm maximum
* No toxic contaminants at levels which would make the air unsafe to breathe.

Refer to the C.G.A. Commodity Specification G-7.1 for complete details. It is available from: Compressed Gas Association, (WWW.CGANET.COM).

Assembling the Free-Air Pump

1. MODEL EDP10 or EDP1050HZ220V:

   a. Open the shipping carton and remove any protection padding from the box. Remove the pump from the carton.

      We recommend storing the shipping carton and pads in the event the pump must be shipped in the future.

   b. Remove the pressure gauge from its separate box. Assemble it to the gauge port located on top of the pump's outlet filter body. The gauge should face outward so that it can be read while setting the pressure adjustment knob (see Figure 1).

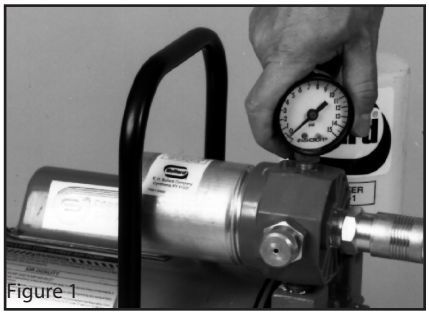


Figure 1

2. ALL PUMPS:

   a. Unscrew the pump's outlet filter jar and check to be sure the outlet filter cartridge is seated firmly into the outlet filter body (see Figure 2).

      DO NOT OPERATE THIS PUMP WITHOUT AN OUTLET FILTER CARTRIDGE (Cat. No. S17101).

      Be sure the outlet filter O-ring is installed inside the filter body.

   b. Screw the filter jar back onto the filter body. Tighten firmly by hand, making sure the jar is seated against the O-ring so that no air can escape.

   c. Check to be sure that the inlet filter, pressure gauge and outlet couplings are all assembled tightly to the pump so that no air can escape.

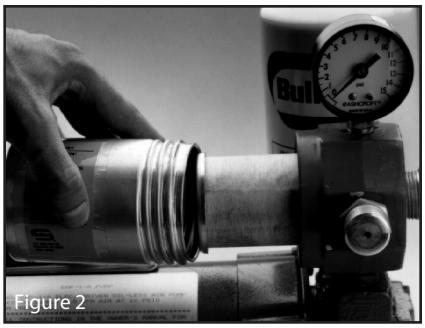


Figure 2

PUMP PERFORMANCE SPECIFICATIONS		
	EDP10	EDP1050HZ220V
PUMP DESIGN	Rotary Carbon Vane (4 vanes)	Rotary Carbon Vane (4 vanes)
MAXIMUM PRESSURE	15 psig (1.03 bar)	15 psig (1.03 bar)
TOTAL AIR FLOW (MAX.)	10 cfm @ 5 psig (283 lpm @ 0.34 bar)	10 cfm @ 5 psig (283 lpm @ 0.34 bar)
INLET FILTER	Medium Efficiency	Medium Efficiency
OUTLET FILTER	Carbofine with activated carbon	Carbofine with activated carbon
DIMENSIONS Width Length Height	8 inches (20.3 cm) 16.3 inches (41.4 cm) 13.5 Inches (34.3 cm)	8 inches (20.3 cm) 17.55 inches (44.6 cm) 13.5 Inches (34.3 cm)
WEIGHT	49 lbs. (approx.) (22.2 kg)	49 lbs. (approx.) (22.2 kg)

Pump Performance Specifications:

	EDP10	EDP1050HZ220V
PUMP DESIGN:	Rotary Carbon Vane (4 vanes)	Rotary Carbon Vane (4 vanes)
MAXIMUM PRESSURE:	15 psig (1.03 bar)	15 psig (1.03 bar)
TOTAL AIR FLOW (MAX.):	10 cfm @ 5 psig (283 lpm @ 0.34 bar)	10 cfm @ 5 psig (283 lpm @ 0.34 bar)
INLET FILTER:	Medium Efficiency	Medium Efficiency
OUTLET FILTER:	Carbofine with activated carbon	Carbofine with activated carbon
DIMENSIONS:		
WIDTH:	8 inches (20.3 cm)	8 inches (20.3 cm)
LENGTH:	16.3 inches (41.4 cm)	16.3 inches (41.4 cm)
HEIGHT:	13.5 inches (34.3 cm)	13.5 inches (34.3 cm)
WEIGHT:	49 lbs. (approx.) (22.2 kg)	49 lbs. (approx.) (22.2 kg)

Electric Motor Specifications:

	EDP10	EDP1050HZ220V
ENCLOSURE:	Open, Drip-proof Meets UL Requirements Built to NEMA Standards	Open, Drip-proof Meets UL Requirements Built to NEMA Standards
H.P.	3/4	1
PHASE:	Single	Single
CYCLES:	60 Hz	50 Hz
VOLTS:	115	230
AMPS:	10.8 @ 115 V.	5.3 @ 230 V.
SERVICE FACTOR:	1.25	1.0
PROTECTOR:	Internal Thermal Overload	Internal Thermal Overload

⚠ WARNING

PROPER MOTOR SELECTION AND WIRING (IN ACCORDANCE WITH LOCAL AND NATIONAL ELECTRIC CODES) IS THE RESPONSIBILITY OF THE USER.

Operating the Free-Air Pump

⚠ WARNING

THE RESPIRATOR USER MUST NOT ENTER THE CONTAMINATED WORK AREA UNTIL ALL OF THE FOLLOWING STEPS HAVE BEEN COMPLETED. FAILURE TO READ, UNDERSTAND AND FOLLOW THESE INSTRUCTIONS COULD CAUSE DEATH OR SERIOUS INJURY OR LIFE-THREATNING DELAYED LUNG DISEASE INCLUDING BUT NOT LIMITED TO SILICOSIS, PNEUMOCONIOSIS OR ASBESTOSIS.

1. Analyze the atmosphere at the location of the air inlet and the pump itself to be sure the pump will not be operating in a contaminated or an explosive atmosphere.

2. If Using an EDP10 Pump:

Plug the pump into a 115 volt electrical outlet. The pump's motor is equipped with a toggle switch and a 8 foot cord with a standard three-prong plug.

For extension cords, 12 AWG (15 amps) or heavier duty gauge is recommended. Bullard also recommends that the distance be limited to 100 feet, the plug be three-prong grounded, and that only one extension cord be used.

If Using an EDP1050HZ220V Pump:

No electrical cord or plug is supplied with this 1 hp, 50 HZ pump motor. User must supply an electric cord for a max. of 15 amps. Bullard recommends using 12 AWG size wires for the 110 or 220 volt cords. Use the appropriate three-wire plug for this 15 amp, 110 or 220 volt electric motor.

You may use up to 100 (30 m) feet of 50 amp, 3-wire grounded extension cord to reach your electrical outlet.

Avoid excessive lengths of extension cord, especially if running the pump continuously.

The pump's motor is equipped with thermal overload protection. The thermal overload protection should reset automatically after 15 min. of cool down time.

Proper wiring should be performed by a qualified electrician.

REFER TO THE MOTOR NAME PLATE OR JUNCTION BOX COVER FOR PROPER WIRING DIAGRAM.

⚠ WARNING

PROPER MOTOR SELECTION AND WIRING (IN ACCORDANCE WITH LOCAL AND NATIONAL ELECTRIC CODES) IS THE RESPONSIBILITY OF THE USER.

3. The EDP10 pump will operate sitting on its four rubber mounts. It does not need to be bolted down. The EDP1050HZ220V pump will sit on its bottom mounts, or can be bolted down, if desired.

4. Make sure the pump's inlet filter is located in a clean air environment containing a continuous supply of at least Grade D breathable air at all times. (See BREATHING AIR REQUIREMENTS on page 3) (see Figure 3).

   If the inlet filter cannot be placed in a clean air environment containing a continuous supply of at least Grade D breathable air, install Bullard's 50 foot (15 m) Inlet Extension Hose Kit (Cat. No. V50IN) to the pump's inlet port. See the directions shipped with the Extension Hose Kit for assembly instructions.

Figure 3

   If clean Grade D breathable air cannot be guaranteed at all times within this 50 foot (15 m) reach, you may add up to five (5) additional lengths of 50 foot (15 m) Extension Hose (Cat. V50EX).

   Therefore, you may place your inlet filter up to 300 feet (90 m) away from the pump. **DO NOT ADD MORE THAN 300 FEET (90 m) OF INLET EXTENSION HOSE TO THE PUMP.**

5. Assemble your respirator by following the manufacturer's directions as described in the respirator's User Manual. Be sure the pump's outlet pressure, measured by the pressure gauge on the pump, is greater than the minimum MSHA/NIOSH approved pressure required to operate the respirator.

   The respirator's minimum approved pressure should be located in the respirator's User Manual or on a label attached to the respirator.

   If you have any questions as to whether or not your respirator is compatible with this pump, call Bullard's Customer Service Department at 877-285-5273 or 859-234-6616.

6. Connect the respirator's approved air supply hose(s) to the quick-disconnect outlet coupler(s) on the pump (see Figure 4).

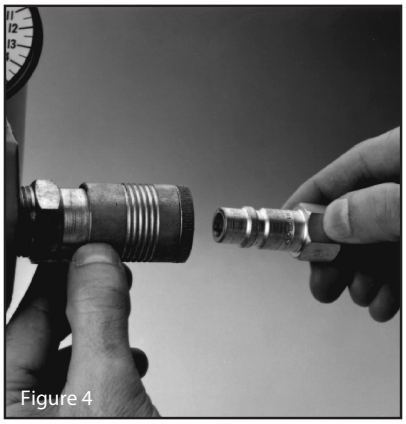


Figure 4

7. Before connecting your respirator to the air supply hose, turn the pump on. Allow the air to flow through the pump and air supply hose for a few minutes to purge or expel any hose odors or moisture that may have accumulated inside the hose.

   TIP: If pump is turned on without a respirator attached, the gauge will read zero because the pump air is flowing freely at this point (i.e. No Back Pressure from a respiratory system)

8. Connect the respirator to the air supply hose using the quick-disconnect fittings.

9. With the air flowing, put on the respirator by following the directions in the respirator manufacturer's User Manual.

10. Check that the pump's outlet pressure is within the respirator's approved pressure range. If the pump's pressure gauge shows too high of a pressure for the respirator's approved settings, then adjusting the pressure relief valve, located on the outlet filter body, can lower the pump's pressure gauge to the proper range.

    To set the pressure adjustment valve, loosen the lock nut. Once the desired outlet pressure has been obtained, retighten the lock nut firmly by hand to maintain consistent outlet pressure. (see Figure 5).

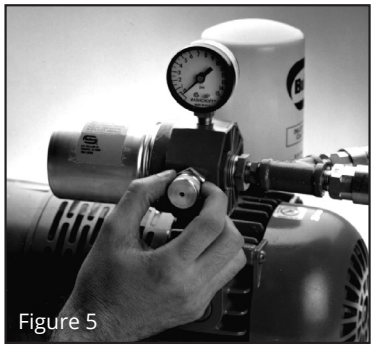


Figure 5

    YOU ARE NOW READY TO ENTER THE WORK AREA.

11. **When finished working, leave the work area wearing the respirator with the air still flowing. Once outside the contaminated area and in an environment containing at least Grade D breathable air, remove the respirator, turn the pump off, then disconnect the air supply hose using the quick-disconnect couplers.**

    See the respirator's User Manual for proper inspection, maintenance and storage procedures for the respirator you are using.

Maintaining the Free-Air® Pump

Bullard Free-Air pumps consist of an electrically driven air pump with four carbon vanes. The vanes self-adjust as they wear and should last from 5,000 to 10,000 hours if properly maintained.

For the pump to operate at its optimum performance level, the following routine maintenance procedures must be performed:

1. REPLACE THE INLET AND OUTLET FILTERS REGULARLY

Dirty filters may inhibit air flow to the respirator(s), and cause the motor to overload/overheat and decrease vane life.

- Replace the Carbofine outlet filter cartridge (Cat. No. S17101) at least once every 200 running hours or sooner, if necessary.

- Replace the inlet filter (Cat. No. 23611) at least once every 500 operating hours or sooner, if necessary.

2. FLUSH PUMP IF NECESSARY

Should excessive dirt, sand, foreign particles, moisture or other impurities be permitted to enter the pump, the carbon vanes will become sluggish and the pump's performance will deteriorate. This will result in decreased outlet pressure or failure of the pump to operate.

If the pump remains idle in a humid environment for a long period of time, rust film may build up in the pump's chamber and rotor slots. This will result in decreased outlet pressure or a failure to operate at all.

If the above occurs, the pump should be flushed with the following recommended solvent:

- GAST AH255D Safety Solvent (Cat. No. S17931)

⚠ WARNING

NEVER USE KEROSENE OR OTHER COMBUSTIBLE LIQUIDS OR VAPORS WITH THIS PUMP. USING KEROSENE OR OTHER COMBUSTIBLE LIQUIDS OR VAPORS WITH THIS PUMP COULD CAUSE AN EXPLOSION AND RESULT IN DEATH OR SERIOUS INJURY.

Directions for Flushing Pump

a. Before flushing, disassemble and remove the following parts from the pump:

- Disconnect the respirator's air supply hose
- Remove the pump's inlet filter
- Remove the pump's outlet filter jar and outlet filter cartridge

b. With the pump running, spray several ounces of approved safety solvent into the pump's air inlet port. Repeat the flushing if necessary.

⚠ WARNING

RUN THE PUMP FOR A SUFFICIENT TIME TO PURGE ALL TRACES OF THE SOLVENT BEFORE REPLACING THE FILTERS, RECONNECTING THE AIR SUPPLY HOSE(S) AND USING THE RESPIRATOR.

3. IN EVENT OF BROKEN VANES

Should you experience broken vanes in your Free-Air pump, it is important to thoroughly clean out not only the rotor and drum, but also the inlet and outlet filters.

Before cleaning

- Disconnect pump from power source
- Disconnect respirator's air supply hose
- Remove the pump's inlet filter
- Remove the pump's outlet filter jar and outlet filter cartridge
- Remove the end plate which covers the rotor and drum

Remove any large pieces of vane which may still be located in the vane slots, located on the rotor or lodged in the inlet or outlet connections to the pump.

Next, tilt pump forward towards the ground (in the direction of the quick-disconnect coupler), being careful not to impact ground, and allow any unseen dust and debris to fall out of the pump. Jiggling and shaking to aid removal is acceptable.

Use a can of compressed air, or a compressed air tool to spray air through the air inlet port. Do the same in and around the rotor and drum, ideally while in a forward tilted position to aid in removal. Finally, apply compressed air to the outlet filter housing.

Repeat steps as necessary, until no further debris is emitted.

After no further debris is present, turn the rotor by hand in a clockwise direction to ensure that the rotation is smooth, with no audible or felt grinding or resistance. If grinding or resistance is felt, re-apply compressed air.

4. AVOID RUNNING THE PUMP AT EXCESSIVE PRESSURE

Avoid running the Free Air pump above 15 psig (1.03 bar) for any length of time. Running the pump above 15 psig (1.03 bar) could cause motor damage and will create premature wear of the carbon vanes.

NOTE
NEVER LUBRICATE THIS OIL-LESS PUMP. THE MOTOR BEARINGS ARE GREASE PACKED AND SEALED. THEY REQUIRE NO FURTHER LUBRICATION.

Free-Air Pump Trouble Shooting Guide

If your Bullard Free-Air pump is not working satisfactorily, please follow the trouble shooting steps below:

Initial Checklist

1. You should be using an authorized 1/2" ID Air Supply Hose with your NIOSH Approved Respirator System for Free-Air Pumps.
2. If using an extension cord, Bullard recommends 15 amp, 3-wire, 12 AWG grounded extension cord up to 100 feet. Do not overload the circuit with additional electrical equipment. The EDP10 or EDP1050HZ220V requires at least a 7 kw generator if operated as a portable unit. A 15 amp dedicated breaker circuit is required if operated as a stationary unit.

NOTE
The EDP10 and EDP1050HZ220V CANNOT be used with cooling vortex tubes.

SYMPTOM: Pump Fails to Start or Hums

1. Turn pump switch off and disconnect from the power source.
2. Check for the correct electrical current as shown on the motor plate and in the Electric Motor Specification Chart on page 4 of this manual.
3. The pump is equipped with a thermal overload protector that turns the current off when subjected to electrical overloads. Check to be sure that the circuit is not overloaded by the pump and other electrical equipment.
4. Check to make sure that the carbon vanes move freely. (Note: The back of the electric motor can be turned by hand with a flat head screwdriver to confirm the free rotation. If stuck or grinding rotation occurs, then follow the "Flushing Pump Directions" given on this page.)
5. Wait 15 minutes and restart.

SYMPTOM: Outlet Air Pressure Too Low

1. Be sure you know the proper pressure range for the respirator - see the respirator's instruction manual.
2. Be sure the respirator and air supply hose are connected when the gauge reading is taken.
3. Check to see that the gauge is functioning properly. Replace the gauge if broken or malfunctioning.
4. Check to see that the outlet filter jar is seated firmly into the filter housing's O-ring so that no air can escape. Replace the jar and/or O-ring if damaged or worn.
5. Check to see that no air is escaping from the relief valve in the outlet filter body. Reset the pressure adjustment valve if necessary.
6. Check that both the inlet filter (Cat. No. 23611) and outlet filter (Cat. No. S17101) are clean and replace if necessary. Dirty filters restrict air flow.
7. Flush the pump with GAST AH255D Safety Solvent (Cat. no. S17931) to remove excessive dirt, sand, particles, moisture or other impurities in the rotor assembly.

   See the Maintenance Section on Page 7 of this manual for proper directions on flushing the pump.

   When the parts are reassembled, attach the respirator and turn the pump on, monitoring the outlet pressure.
8. Check to make sure that the carbon vanes do not need to be replaced. Worn vanes may not produce enough air flow.
9. Make sure there is nothing obstructing the airline supply hose.

SYMPTOM: Outlet Pressure Too High

1. The pressure adjustment valve is set too high - reset to a lower pressure. Be sure the outlet pressure remains in the proper range for the respirator as specified by the respirator manufacturer - see the respirator's instruction manual.
2. Check the respirator's air supply hose for kinks or other obstructions in the air supply hose(s).

SYMPTOM: Pump Overheating

1. 160° - 200°F (71° - 93°C) is normal output air temperature when the pump is continuously running. This heat is dissipated as it travels through the respirator's air supply hose until it reaches ambient air temperature. (Note: A minimum length of 50 ft of air supply hose is required to allow the outlet air temperature to return to ambient conditions. Air Supply Hose shorter than 50 ft may result in serious injuries to the respirator user.)
2. Make sure that both the inlet and outlet filters are clean. Replace if necessary.
3. The pressure adjustment valve is set too high - reset to a lower pressure. Be sure the outlet pressure remains in the proper range for the respirator as specified by the respirator manufacturer - see the respirator's instruction manual. (Note: Maximum Outlet Pressure on the EDP10 or EDP1050HZ220V pump is 15 psig. Running Higher Pressures allows for less air flow through the pump, and makes the pump overheat and/or damages the rotary vanes.)
4. Flush the pump with GAST AH255D Safety Solvent (cat. no. S17931) to remove excess dirt, sand, particles, moisture or other impurities in the rotor assembly.

   See the Maintenance Section on page 7 in your user manual for proper directions on flushing the pump.

   When the parts are reassembled, attach the respirator and turn the pump on, monitoring its performance for overheating.
5. The electrical circuit to which the pump is connected is overloaded. Check the amperage load of the circuit and disconnect other electrical equipment, if necessary, from that circuit.

   TIP: If ambient air temperatures are high, place the Bullard Free-Air® Pump in the shade. Do not lay air line hoses directly on blacktop. Also, be sure all fittings are at least 1/2" ID air supply hose fittings.

SYMPTOM: Outlet Air Temperature Too Warm

1. Be sure that at least the first 50 feet of air supply hose closest to the pump is laid out (not coiled) to permit excess heat to dissipate from the hose.
2. Keep the air supply hose out of direct sunlight and off warm or hot surfaces.
3. Put a coiled section of the air supply hose in the bottom of a large container. Fill the container with water and ice and cover with a lid. For best results, locate the container as close to the worker as possible.

SYMPTOM: Outlet Air Temperature Too Cold

1. Let the pump warm up approximately 15 minutes before using.
2. Coil the first 50 feet of air supply hose closest to the pump.
3. Keep the air supply hose off cold surfaces.

SYMPTOM: Moisture in Air Supply Hose Line

1. Locate the air inlet filter in a dry, clean air location, where breathable air can be assured at all times (Note: See "Breathing Air Requirements on page 3 for complete details.)
2. With the air supply hose connected to the pump, but not the respirator, turn the pump on and let it run for approximately 15 minutes to purge the hose of excessive moisture.
3. Between uses, hang the hoses so extra moisture may drain.

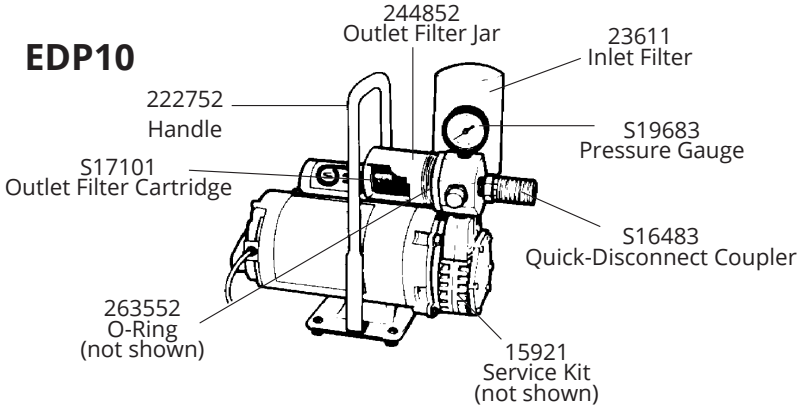
IF THESE STEPS FAIL TO RESOLVE THE PROBLEM, CONTACT YOUR BULLARD DISTRIBUTOR OR BULLARD CUSTOMER SERVICE DEPARTMENT AT 877-285-5273 OR 859-234-6616.

Replacement Parts List

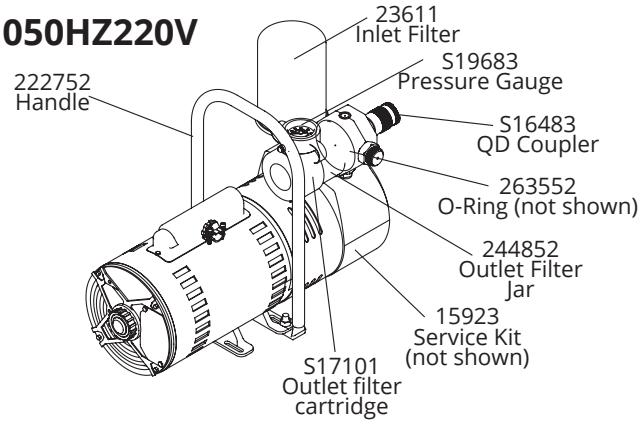
REPLACEMENT PARTS AND ACCESSORIES FOR
EDP10 AND EDP1050HZ220V FREE-AIR PUMPS

Cat. No.	Description
23611	Inlet Filter
244852	Outlet Filter Jar
263552	Outlet Filter Assembly O-Ring
S17101	Outlet Filter Cartridge, Carbofine
S17931	GAST AH255D Safety Solvent, 12 oz. (350 ml) Aerosol Can
V50IN	Remote Inlet Air Hose Kit, 50 Feet (15 m) 1 per pump
V50EX	Remote Extension Hose Kit, 50 Feet (15 m) 5 per pump maximum
15921	EDP10 Service Kit (includes Four Carbon Vanes, Inlet Filter, Outlet Filter Cartridge)
222752	Pump Handle
S16483	Quick-Disconnect Coupler, Female Flow-Through
S19683	Pressure Gauge, 0-30 psig (0-2 bar)
15923	EDP1050HZ220V Service Kit (includes Four Carbon Vanes, One Gasket, Two O-rings)

EDP10



EDP1050HZ220V



Air Filter Replacement Schedule

Regular inspection and replacement of the air filters will prevent extensive and costly pump repair. Dirty or clogged filters can be responsible for failure of the pump to build up outlet pressure and eventual overheating.

OUTLET FILTER

- Replace the Carbofine outlet filter (Cat. No. S17101) at least once every 200 running hours or sooner if necessary.

The outlet filter cartridge is multi-layered with particles of activated carbon. This gives a sorbent bed with an exposed carbon surface of more than 15,000 square feet.

INLET FILTER

- Replace the medium efficiency inlet filter (Cat. No. 23611) at least once every 500 running hours or sooner if necessary.

The inlet filter keeps moisture as well as particulates out of the air supply and helps protect the pump's carbon vanes and pump clearances from premature wearing.

We recommend the following chart be used to monitor and maintain a routine air filter replacement schedule.

CARBOFINE OUTLET FILTER (Cat. No. S17101)			MEDIUM EFFICIENCY INLET FILTER (Cat. No. 23611)		
Cumulative Pump Operating Hours	Last Filter Replacement Date	Employee Responsible (Initial)	Cumulative Pump Operating Hours	Last Filter Replacement Date	Employee Responsible (Initial)
200			500		
400			1,000		
600			1,500		
800			2,000		
1,000			2,500		
1,200			3,000		
1,400			3,500		
1,600			4,000		
1,800			4,500		
2,000			5,000		

California Proposition 65 ⚠ WARNING

Cancer and Reproductive Harm - www.P65Warnings.ca.gov.

Propuesta de California 65 ⚠ ADVERTENCIA

Cáncer y Daño Reproductivo - www.P65Warnings.ca.gov.

Proposition de la Californie 65 ⚠ AVERTISSMENT

Cancer et Troubles de l'appareil reproducteur - www.P65Warnings.ca.gov.

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PUMP WARRANTY

FREE-AIR® PUMP ONE YEAR LIMITED WARRANTY

Bullard warrants to the original purchaser that the Free-Air pump will be free of defects in material and workmanship under normal use and service for a period of one (1) year from the date of purchase. E.D. Bullard Company's obligation under this warranty is limited to repairing or replacing, at its option, parts that are returned within the warranty period and that are, after examination, shown to E.D. Bullard Company's satisfaction to be defective, subject to the following limitations:

a) Free-Air pump must be returned to the E. D. Bullard Company with shipping charges prepaid.

b) Free-Air pump must not be altered from its original factory configuration.

c) Free-Air pump must not have been misused, subjected to negligent use, or damaged in transport.

d) The date of purchase is within the one year warranty period. (A copy of the purchaser's original invoice showing the date of purchase is required to validate warranty coverage).

In no event shall Bullard be responsible for damages for loss of use or other indirect, incidental, consequential or special costs, expenses or damages incurred by the purchaser, notwithstanding that Bullard has been advised of the possibility of such damages.

ANY IMPLIED WARRANTIES, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE SPECIFICALLY EXCLUDED FROM THIS WARRANTY.

Some states do not allow the exclusion or limitation of incidental or consequential damages, or allow limitations on how long an implied warranty lasts, so the above limitations or exclusion may not apply to you. This warranty gives you specific legal rights, and you may have other rights which vary from state to state.

Return Authorization

The following steps must be completed before Bullard will accept any returned goods. Please read carefully.

Follow the steps outlined below to return goods to Bullard for repair or replacement under warranty or for paid repairs:

1. Contact Bullard Customer Service by telephone or in writing at: Bullard 1898 Safety Way Cynthiana, KY 41031-9303 Toll-Free: 877-BULLARD (285-5273) Phone: 859-234-6611In your correspondence or conversation with Customer Service, describe the problem as completely as possible. For your convenience, your coordinator will try to help you correct the problem over the phone.

2. Verify with your coordinator that the product should be returned to Bullard. Customer Service will provide you with written permission and a return authorization number as well as the labels you will need to return the product.

3. Before returning the product, decontaminate and clean it to remove any hazardous materials which may have settled on the product during use. Laws and/or regulations prohibit the shipment of hazardous or contaminated materials. Products suspected to be contaminated will be professionally discarded at the customer's expense.

4. Ship returned products, including those under warranty, with all transportation charges pre-paid. Bullard cannot accept returned goods on a freight collect basis.

5. Returned products will be inspected upon return to the Bullard facility. Bullard Customer Service will telephone you with a quote for required repair work which is not covered by warranty. If the cost of repairs exceeds stated quote by more than 20%, your coordinator will call you for authorization to complete repairs. After repairs are completed and the goods have been returned to you, Bullard will invoice you for actual work performed.

California Proposition 65 ⚠ WARNING
Cancer and Reproductive Harm - www.P65Warnings.ca.gov.

BUILD YOUR Bullard
www.BuildYourBullard.com

Bullard Center
2421 Fortune Drive
Lexington, KY 40509 • USA
877-BULLARD (285-5273)
Tel: +1-859-234-6616
Fax: +1-859-246-0243

Americas Operations
1898 Safety Way
Cynthiana, KY 41031 • USA
877-BULLARD (285-5273)
Tel: +1-859-234-6616
Fax: +1-859-234-8987

Bullard GmbH
Dieselstrasse 8a
53424 Remagen • Germany
Tel: +49-2642 999980
Fax: +49-2642 9999829

Bullard AsiaPacific Pte. Ltd.
51 Changi Business Park
Central 2
#03-04 The Signature
Singapore 486066
Tel: +65 6745 0556

ISO 9001 certified