Polymak®

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# Polymak®

# AIR COMPRESSOR

## 50L

**INSTRUCTION MANUAL**


**Read and follow all safety precautions in instruction manual.**

## Introduction

This is a direct drive Compressor. Motor is connected directly to the Compressor head; Compressor head is piston driven.
Piston & head are manufactured from high quality aluminum with a cast iron sleeve and piston rings. Crank case is filled with oil (SAE30) for lubrication. Oil levels must be monitored to avoid overheating and/or possible failure
Compressor is fitted with an On/Off safety Pressure switch. Pull red button on safety valve up to start the operation; Push down to stop.
The Compressor will automatically stop when maximum pressure is achieved and will start automatically start when the tank pressure drops below 5 bars.
Applications: Can be used for the following: Spray Painting; Tire Inflation; Air Dusting; Detergent Cleaner; Operating Air Tools, Staplers/Drills/Grinders/Sanders; Please check pneumatic tool pressure requirements prior to operation.

### Working Elements

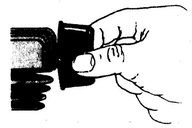
Direct Drive Reciprocating Piston Compressor works inline with the electrical motor situated under the protective housing. The motor drives the crankshaft. The reciprocating motion drives the piston to deliver air to the tank. The motor is regulated by the pressure on/off switch maintaining tank pressure between 5 and 8 bars.

### Prior to Operation

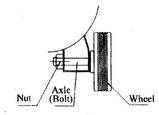
1. Please check outer carton for any signs of damage.
2. Assembly
   a. Air Filter to be screwed onto the Compressor Head. See Picture 2
   b. Wheels to be fit with bolts and nut: See picture 3.
   c. Remove oil cap and replace with Oil Breather cap: Oil cap is only to be used when Compressor is transported: See picture 4
3. Operate in a dry well ventilated area
   a. Check oil levels regularly; do not over fill or allow oil level to drop below mark indicated on oil level glass.
   b. Place the Compressor on a level surface to avoid vibration or accident.
   c. Keep well clear from flammable and explosive material/objects.
   d. Keep out of reach from Children



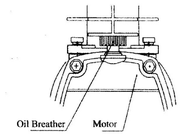
Pressure Switch
Picture 1



Air filter
Picture 2




Wheel
Picture 3




Oil Breather
Picture 4



3. Electrical
   a. Avoid using long extension cables as the longer cable will reduce voltage and increase amperage; this can lead to motor burn-out.
   b. Maximum electrical extension cable 1.5 amp length 15 meter
   c. Electrical power cable parameters; see chart below.

Direct-Drive Air Compressor Power Cable Charts

| Power (HP/KW) | Line(mm²) | | Safe Line(A) | |
|---|---|---|---|---|
| | 110V | 220V | 110V | 220V |
| 1/0.75 | 1.5 | 1.0 | 20 | 10 |
| 1.5/1.1 | 1.5 | 1.0 | 20 | 15 |
| 2/1.5 | 2.0 | 1.5 | 20 | 20 |
| 2.5/1.8 | 2.5 | 2.0 | 30 | 20 |

4. Operation and Regulation
   a. Check & ensure oil level is at the oil level indicator line. Never allow the Compressor to run below this level and never overfill. This can lead to Compressor head overheating and subsequent failure
   b. Normal working of the Compressor is set by the pressure switch; it will automatically stop when pressure reaches to maximum. When pressure drops below 5-Bar it will automatically restart. The working pressure is set by the factory. Pressure is indicated on the pressure gauge.
   c. On/Off switch is on the top of the Pressure switch. Pull up to start and push down to stop on the red button.
   d. Pressure Regulation
   According to operation requirements, the pressure can be regulated to a maximum of 8-bar.
   Regulator can be set by opening the Pressure switch; open with a screwdriver, and then move hexangular-bolts: "+" means increase pressure, "-" means reduce pressure.



## Warnings

1. Do not operated over 8-bar; Compressor designed to maximum of 8-bar. Re; manufacturers specifications
2. Disconnect air tools/accessories from air supply after operation.
3. Keep your hands or other body parts free from moving parts. Please disconnect before inspection
4. Do not disconnect power at the mains supply; use on/off switch on pressure switch.
5. Check accessory air requirements prior to use; do not operate any air tool/accessory over +5% or -10% of rated pressure.
6. Safety valve's working pressure is set by the factory: do not tamper with the safety value.
7. Pull the safety ring to avoid blockage or jamming of air supply.
8. Use pressure regulator to control pressure; do not use air the air release ring.
9. Keep your hands free from the Compressor head and pipes; these build up high temperature during operation and can result in burns.
10. Cease operation immediately should the compressor sound unusual; take to your nearest service centre for inspection.
11. Do not leave accessories connected to the tank after use; please disconnect.

## Maintenance

1. Maintenance
   a. Change the oil after the first 10 hours of operation; check and ensure oil breather is open. Thereafter oil must be changed every 500 hours. Use SAE 30 or L-DAB 100 in areas where temperature is higher than 10℃; Use SAE 10 or L-DAB 68 when temperature is lower than 10℃;
   b. Check oil level every on oil indicator every 20 hours, add oil when necessary;
   c. Open and drain moisture from the tank every 60 hours.. Pressure must be lower than 0.15Mpa when draining the moisture.
   d. Clean air filter regularly.
   e. Clean crankcase every 500 hours with oil change, check safety valve and pressure gauge;

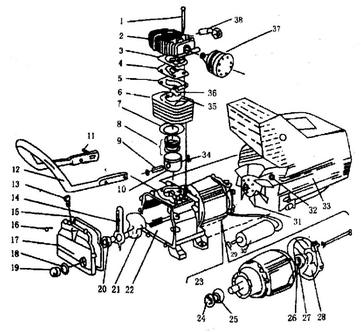


## Troubles and counter measures

| Troubles | Possible Causes | Measures |
|---|---|---|
| No, lower speed or high temperature on motor | a. Malfunction on line or lower voltage<br>b. Thin or long power line<br>c. Switch<br>d. Motor<br>e. Jam or block | a. Inspect lines<br>b. Change power line<br>c. Repair or change new ones<br>d. Repair or change new ones<br>e. Inspect and repair |
| Jam or block | Not enough lubricating oil leads destroy of connecting rod, pistqn working accessories or blocked by other objects; | Inspect crankshaft, connecting rod, piston, piston ring or change new ones when necessary; |
| Quick vibrations or exceptional sound | a. Be flexible on connecting rod or parts;<br>b. Other objects fall into pump<br>c. Block between piston and cylinder<br>d. Working parts seriously destroy | a. Screw down or change new ones<br>b. Inspect and clean<br>c. Add paper mat<br>d. Repair or change new ones |
| Not enough pressure or lower air delivery | a. Lower speed in motor<br>b. Be flexible on belt pulley<br>c. Jam in muffler<br>d .Leak in safety valve<br>e. Leak in air pipe<br>f. Destroy on airproof mat<br>g. Valve slides destroy or block<br>h. Destroy on piston ring and cylinder<br>i. Consume more air than air delivery of air compressor<br>j. Distance between paper mat and cylinder | a. Inspect<br>b. Regulate or repair<br>c. Clean or change new ones<br>d. Inspect and regulate<br>e. Inspect and repair<br>f. Inspect and change new ones<br>g. Change new ones or clear<br>h. Change new ones<br>i. Choose bigger air delivery air compressor<br>j. Reduce paper mat or change cylinder |
| consume more lubricating oil | a. Higher oil level<br>b. Block in breathing apparatus<br>c. Destroy on piston ring and cylinder | a. Keep right oil level<br>b. Inspect and clean<br>c. Change new ones |
| hotter motor | a. Bad ventilation or higher temperature<br>b. Reversion<br>c. working under over-loading | a. Using under37℃<br>b. Regulate running<br>c. Reduce working pressure |
| higher air delivery temperature | a. Bad ventilation<br>b. Higher inlet temperature<br>c. Destroy on valves<br>d. Reversion | a. Move to well ventilation place<br>b. Try to reduce inlet temperature<br>c. Repair or change new ones<br>d. Regulate running direction |



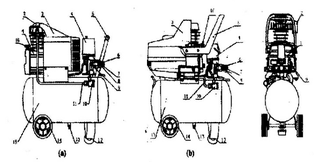
## Parts Illustration




| | | | |
|---|---|---|---|
| 001 Screw | 010 Piston | 019 Oil Level Gauge | 029 Screw |
| 002 Cover for Cylinder | 011 Screw | 020 Screw | 030 Capacitor Motor |
| 003 Paper Washer | 012 Handle | 021 Crankshaft | 031 Fan |
| 004 Valve Plate | 013 Head Breather Cock | 022 Case | 032 Block Spring |
| 005 Paper Washer | 014 Connecting Rod | 023 Stator | 033 Cover for Cylinder |
| 006 Cylinder | 015 Oil Baffle | 024 Oil Seal | 034 Block Spring |
| 007 Paper Washer | 016 Screw | 025 Bearing Front Motor | 035 Location Pin |
| 008 Piston Ring | 017 Front Cover Crankcase | 026 Bearing Rear Motor | 036 Valve Plate |
| 009 Piston Pin | 018 O-Ring | 027 Block Spring | 037 Air Filter |
| | | 028 Bracket Motor | 038 Screw |



## General view and main compressor




| | | | |
|---|---|---|---|
| 1. Mail compressor | 2.Air filter | 3.Fan cover | 4.Pressure switch |
| 5. Handle | 6.Regulating valve | 7.Outlet valve | 8.Pressure gauge |
| 9. Safety valve | 10.One-way valve | 11.Discharge pipe | 12.Stopper Support |
| 13. Drain cock | 14.Wheel | 15.Air Tank | 16.Oil Breather |

## Technical Data

| Model | Power (kw) | Pressure (Mpa) | Air Delivery (m3/min) | Speed (r/min) | Tank capacity (L) | Net weight (kg) |
|---|---|---|---|---|---|---|
| ZB-0.10/7 | 0.75 | 0.8 | 0.1 | 2800 | 6 | 19 |
| ZB-0.11/7 | 1.1 | 0.8 | 0.11 | 2800 | 20 | 22 |
| ZB-0.13/7 | 1.5 | 0.8 | 0.13 | 2800 | 30 | 28 |
| ZB-2042 | 2.2 | 0.8 | 0.17 | 1440 | 40 | 35 |

We are developing and improving products series, also have right to change design. So if any changes on specifications will not notice again.