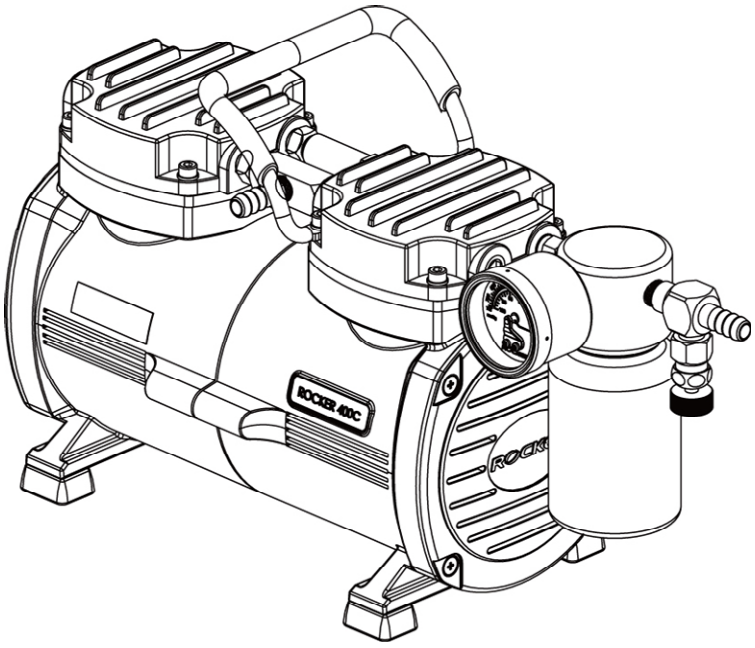
ROCKER

Service Manual

Rocker PTFE coated Chemical Resistant Vacuum Pump



Model No.

Rocker 400C
Rocker 410C

CONTENTS

1. Instruction
2. Failure to start – Maintenance SOP
3. Poor / No Vacuum – Maintenance SOP
4. Most Common Problems
5. Explored Part List
   Rocker 400C
   Rocker 410C
6. Service Video Links

©Rocker Scientific Co., Ltd.
Version. ROC-202005-01

Instruction

- Important notice before troubleshooting:
  1. Ensure the power cord is plugged into power outlet securely.
  2. Ensure the on/off switch is turned on.
  3. Ensure the power supply specifications are applicable before plugging in the power cord.
  4. Make sure to unplug the power cord before disassembling the pump.
  5. Make sure to use the right tools for disassembly to avoid damage to parts.

- Applicable Models:

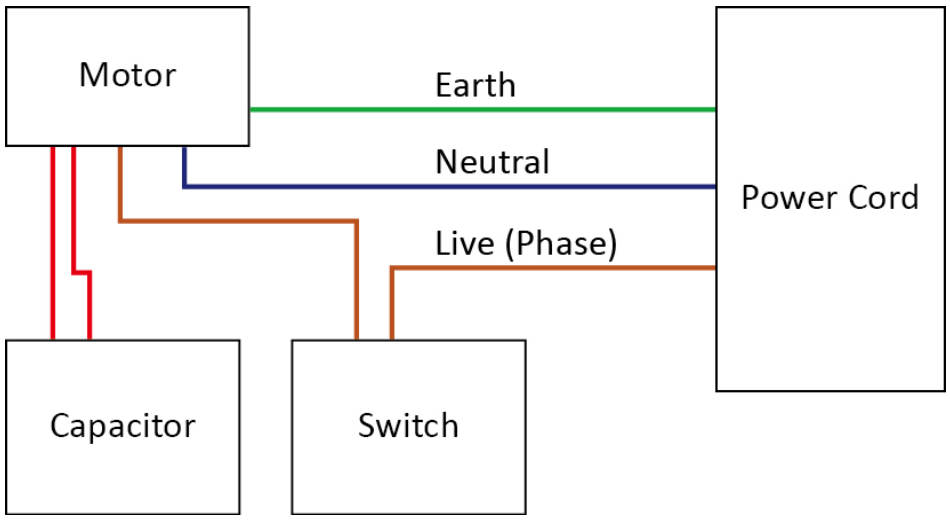
  Rocker 400C

  Rocker 410C

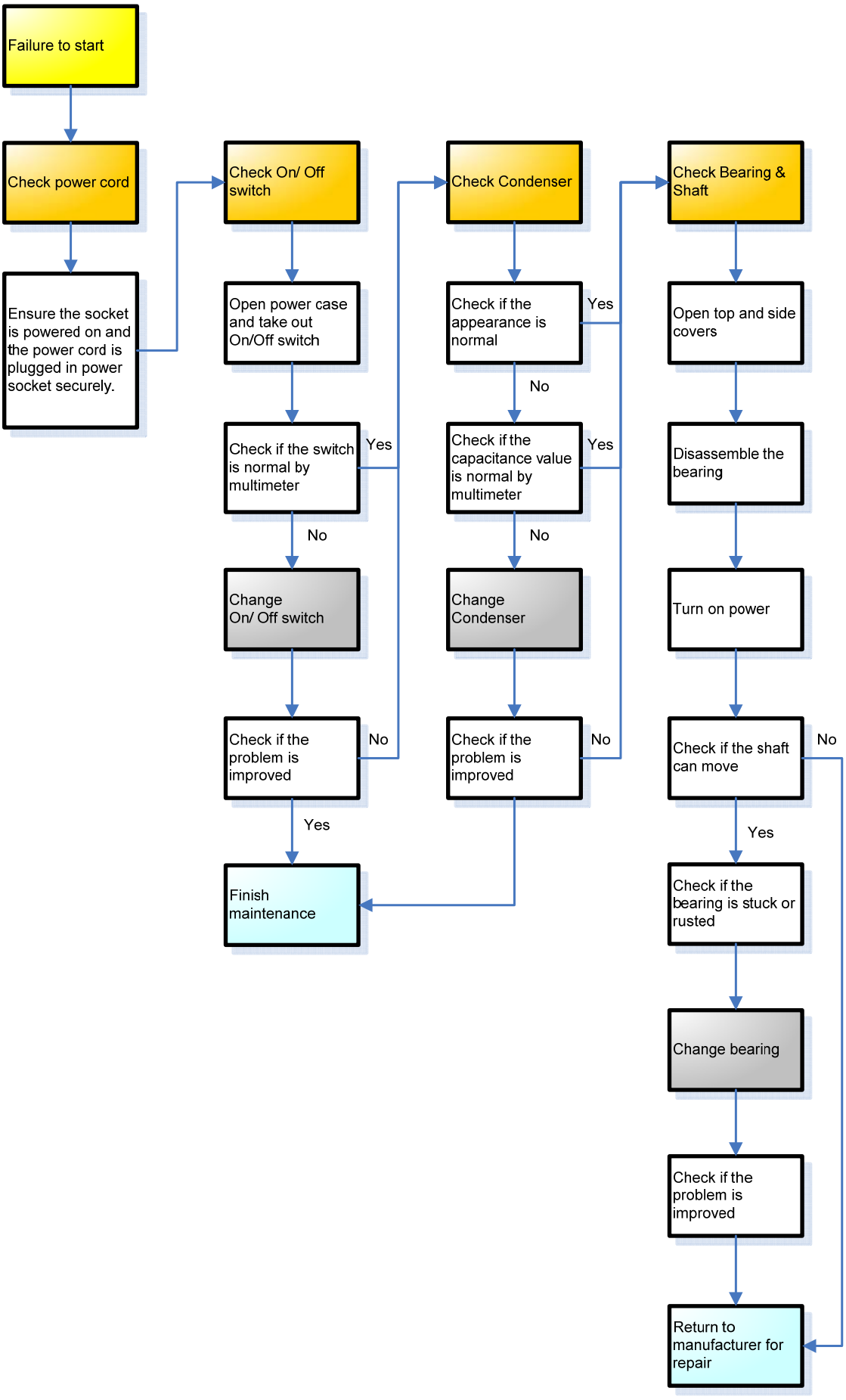
  Tools Preparation:

  Screwdriver, Allen key, Gear puller, Lubricant, Sand paper

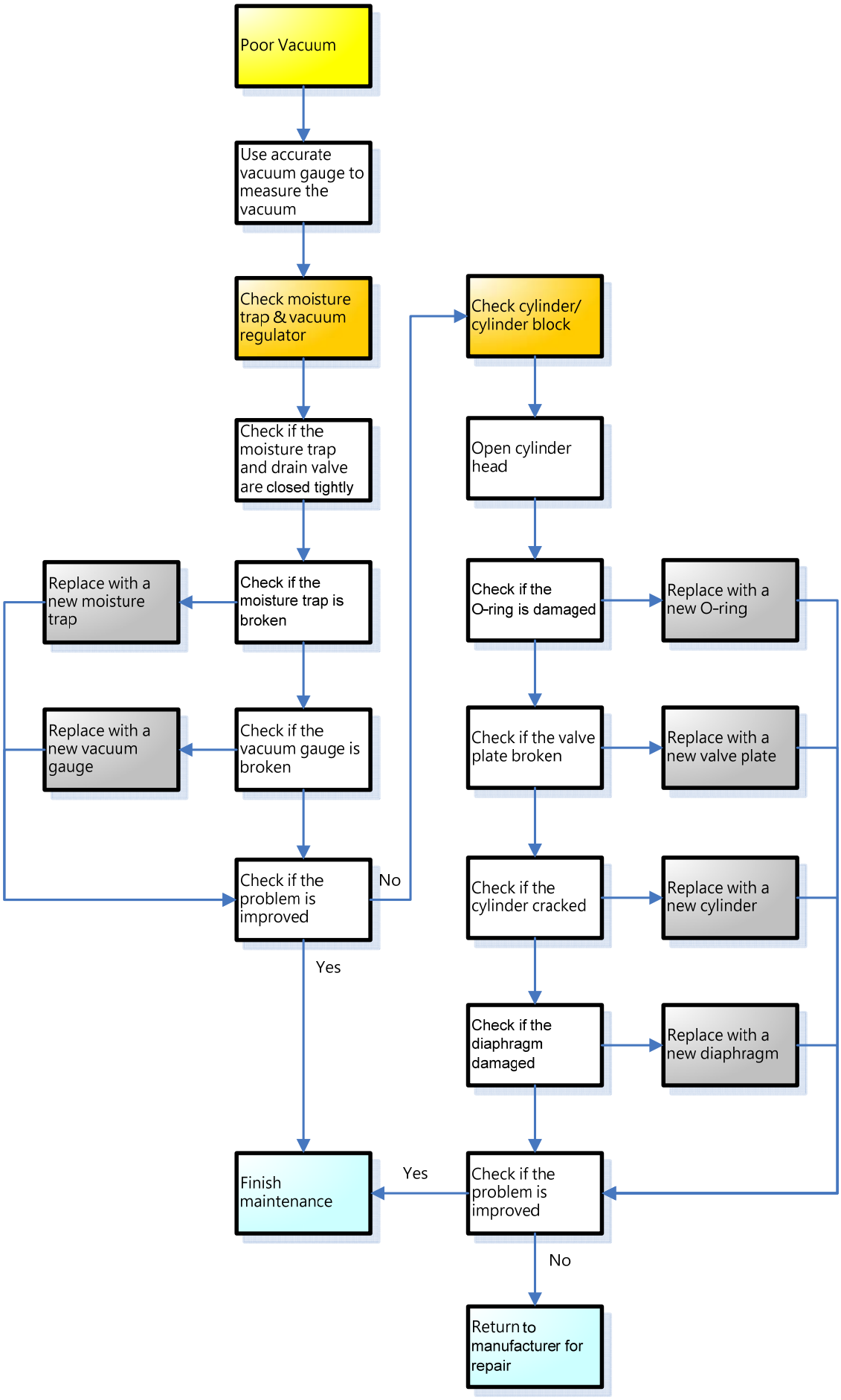
- Circuit Diagram:



Failure to start – Maintenance SOP



Poor / No Vacuum - Maintenance SOP



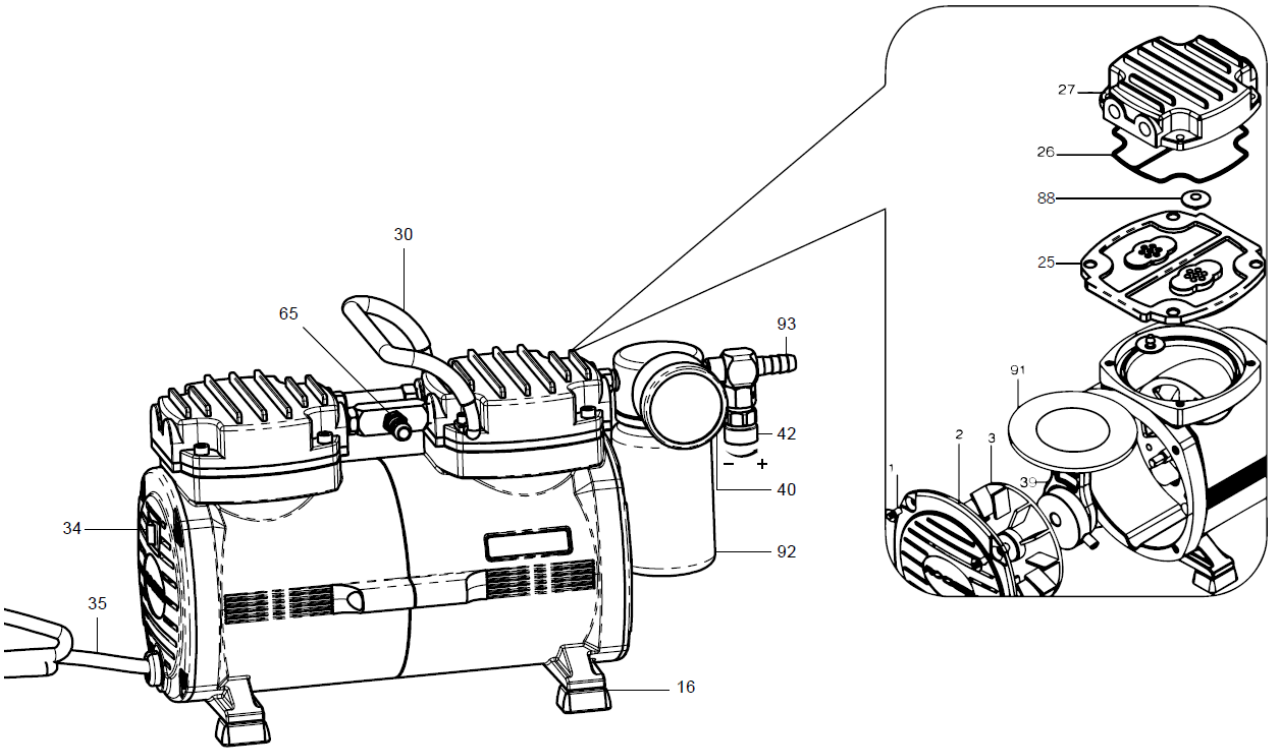
Most Common Problems

<table>
<tr><th>Common Problem</th><th>Cause</th><th>Solution</th></tr>
<tr><td rowspan="4">Failure to start</td><td>1. Power cord</td><td>a) Check with multimeter if the socket is powered on.
b) The power cord is plugged in power socket securely.
c) The power cord often gets bent → check with multimeter if the power cord is powered on.</td></tr>
<tr><td>2. On/off switch</td><td>a) Replace with a new on/off switch if it is not powered on after being tested with multimeter.</td></tr>
<tr><td>3. Condenser</td><td>a) Please replace with a new condenser if the capacitance value doesn't meet the corresponding value below.
b) Capacitor specs & applicable models:
<table>
<tr><th>Model</th><th>110V</th><th>220V</th></tr>
<tr><td>Rocker 400C</td><td>10uf/300V</td><td>4uf/450V</td></tr>
<tr><td>Rocker 410C</td><td>10uf/300V</td><td>4uf/450V</td></tr>
</table></td></tr>
<tr><td>4. Bearing & Shaft</td><td>a) Check if the shaft can be rotated by hand.
b) Bearing is stuck → replace with new part.
c) Shaft is stuck→ return to manufacturer for repair.
d) Both bearing & shaft are not stuck →motor is broken (return to manufacturer for repair if within warranty period)</td></tr>
<tr><td rowspan="3">Poor / No vacuum</td><td>1. Vacuum gauge</td><td>a) If there is a bigger difference in vacuum reading as compared with another calibrated gauge=> replace with a new vacuum gauge.</td></tr>
<tr><td>2. Moisture trap</td><td>a) Check if drain vale (#42) is closed tightly.
b) Check if the moisture trap is broken→ replace with new part.
c) Check if the "O-ring" inside the aluminum cape exist, deform or become harder→ replace with new part.</td></tr>
<tr><td>3. Valve plate</td><td>a) Remove the cylinder head and check if valve plate is damaged → Replace with a new valve plate
b) Check if any particle left under valve plate which make valve plate poorly sealed→ Clean particle</td></tr>
</table>

	4. Cylinder & cylinder block	a) Remove the cylinder head and check if the cylinder block have crack → Replace with a new cylinder block b) Check if the O-ring is damaged→ replace with new part. c) Check if the cylinder is deformed→ Replace with a new cylinder
	5. Diaphragm	a) Check if the Diaphragm is damaged → replace with new part.
Poor flow rate	1. Filter cartridge	a) Check if the filter cartridge is too dirty, color change or particle attached →replace with a new filter cartridge
	2. Airfilter (air outlet)	a) Check if the airfilter color change or particle attached→ replace with a new air filter

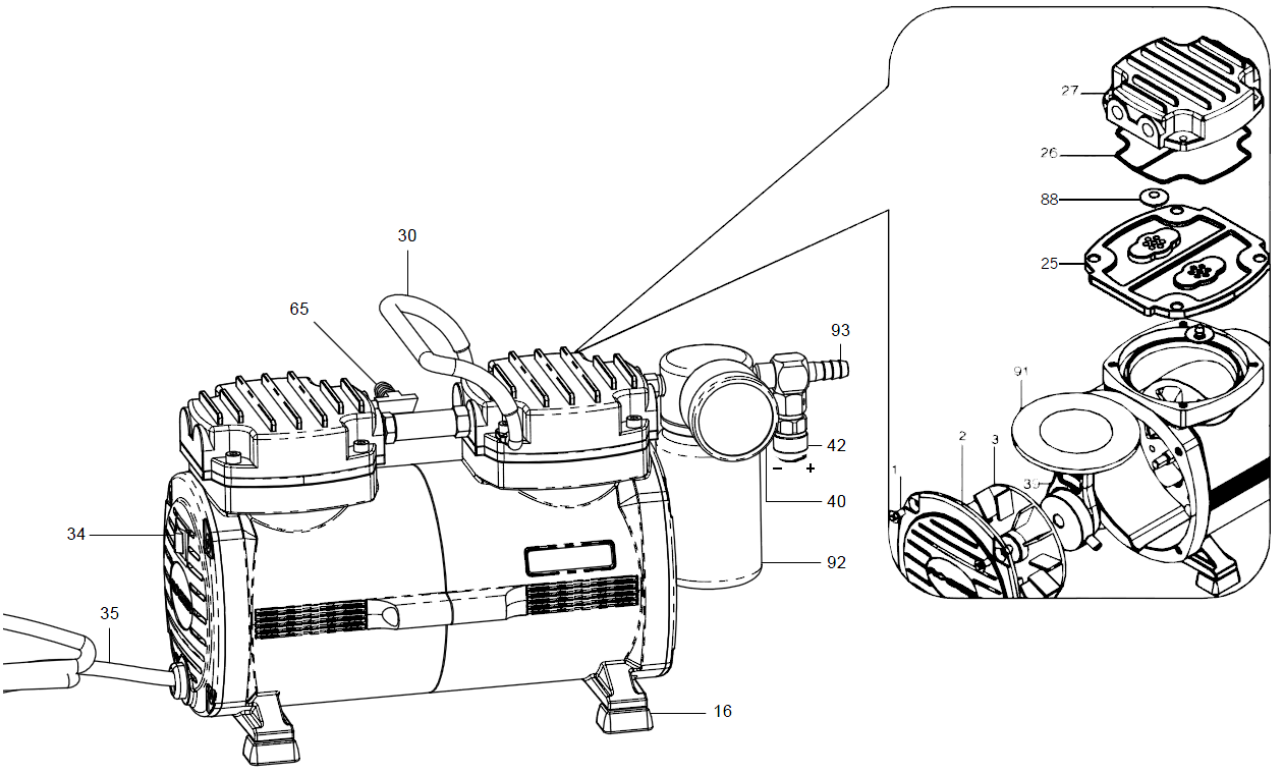
Exploded Part List

Rocker 400C



Index	Description	Quantity	Index	Description	Quantity
1	Screw	8	35	Plug	1
2	Rear cover	2	39	Connecting Rod Set	1
3	Cooling fan	1	40	Vacuum gauge	1
16	Rubber stand	4	42	Drain valve	1
25	Cylinder Block	1	65	Hose connector (outlet)	1
26	Sealing ring	1	88	Rubber valve plate	4
27	Cylinder head	1	91	Diaphragm	1
30	Handle	1	92	Moisture trap (inlet)	1
34	On/off Switch	1	93	Hose connector (inlet)	1

Rocker 410C



Index	Description	Quantity	Index	Description	Quantity
1	Screw	8	35	Plug	1
2	Rear cover	2	39	Connecting Rod Set	1
3	Cooling fan	1	40	Vacuum gauge	1
16	Rubber stand	4	42	Drain valve	1
25	Cylinder Block	1	65	Hose connector (outlet)	1
26	Sealing ring	1	88	Rubber valve plate	4
27	Cylinder head	1	91	Diaphragm	1
30	Handle	1	92	Moisture trap (inlet)	1
34	On/off Switch	1	93	Hose connector (inlet)	1

Service Video Links

Model No.	Subject	Video Link
Rocker 400C/410C	Replacement of bearing	https://drive.google.com/open?id=1ZEcRTGpHElo52eS4Nz7iHhKFLl0_ZmJa
Rocker 400C/410C	Replacement of condenser and on/off switch	https://drive.google.com/open?id=1W9UuTjMXtNMUGgt2_rHx9QydOkFCbGCr