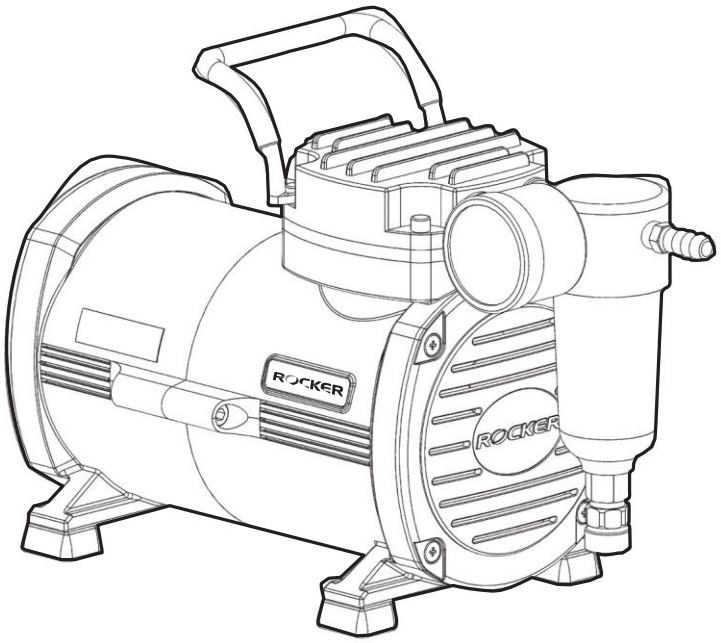
ROCKER

Service Manual

Rocker Series Oil Free Vacuum Pump



Model No.

Rocker 300
Rocker 300DC
Rocker 400
Rocker 410
Rocker 900
Rocker 901
Rocker 910
Rocker 911

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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:

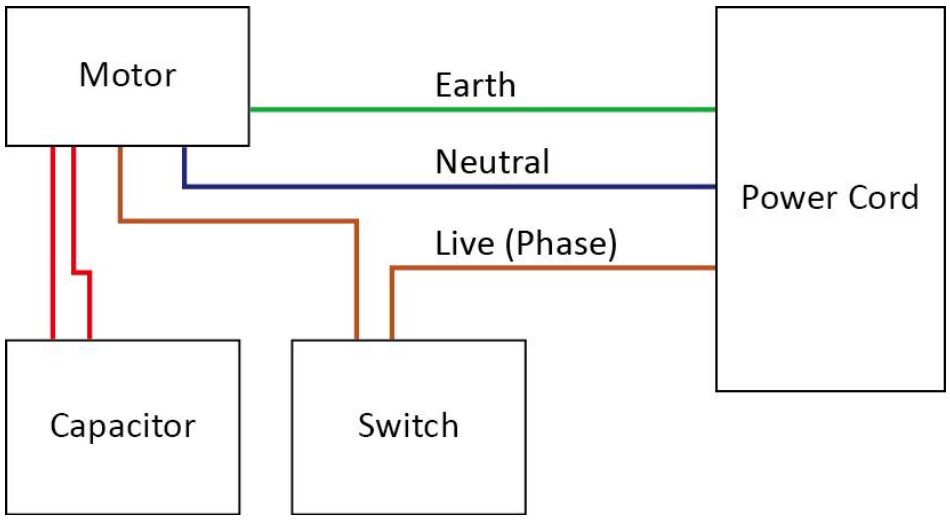
  Rocker 300、Rocker 300DC、Rocker 400、Rocker 410

  Rocker 900、Rocker 901、Rocker 910、Rocker 911

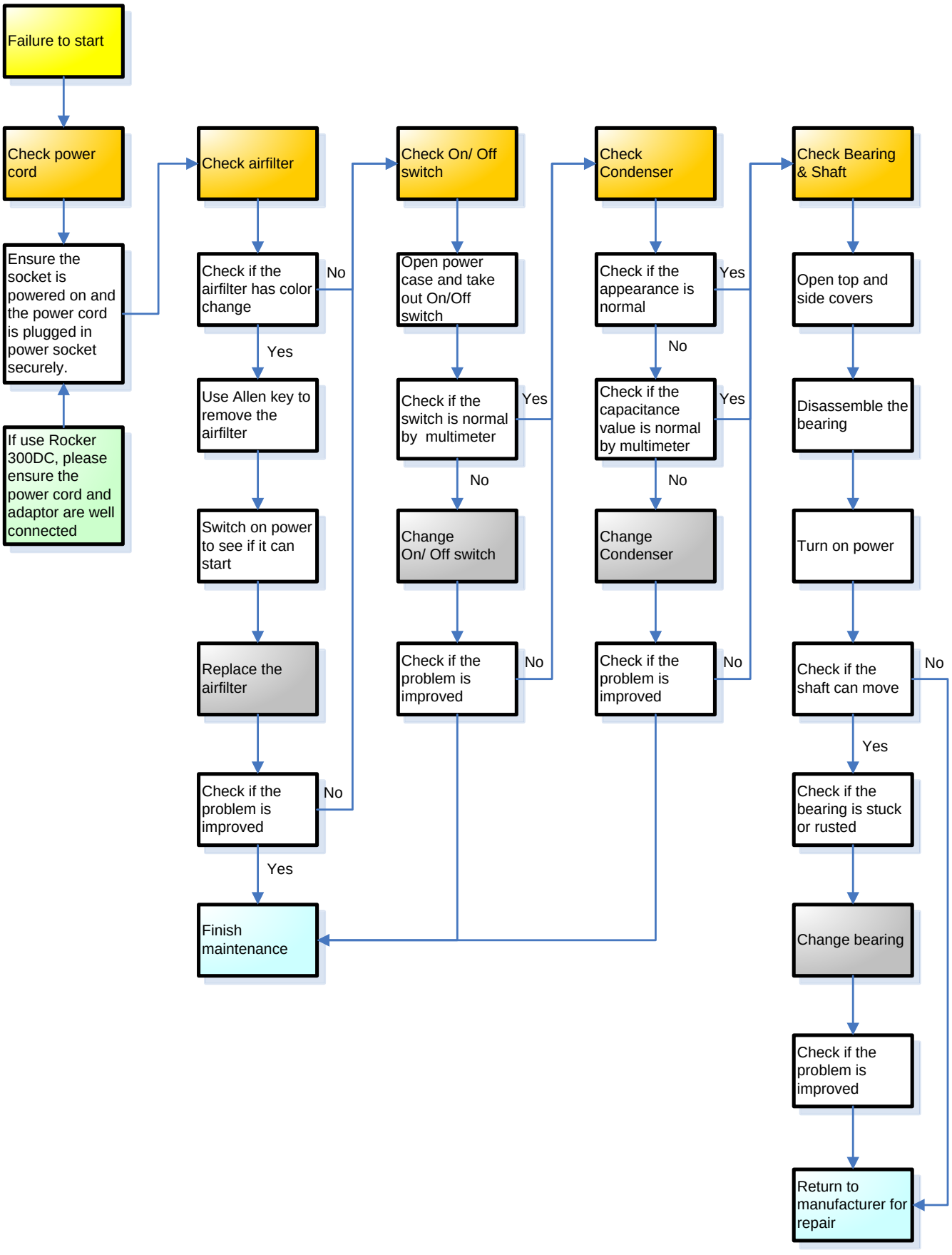
- Tools Preparation:

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

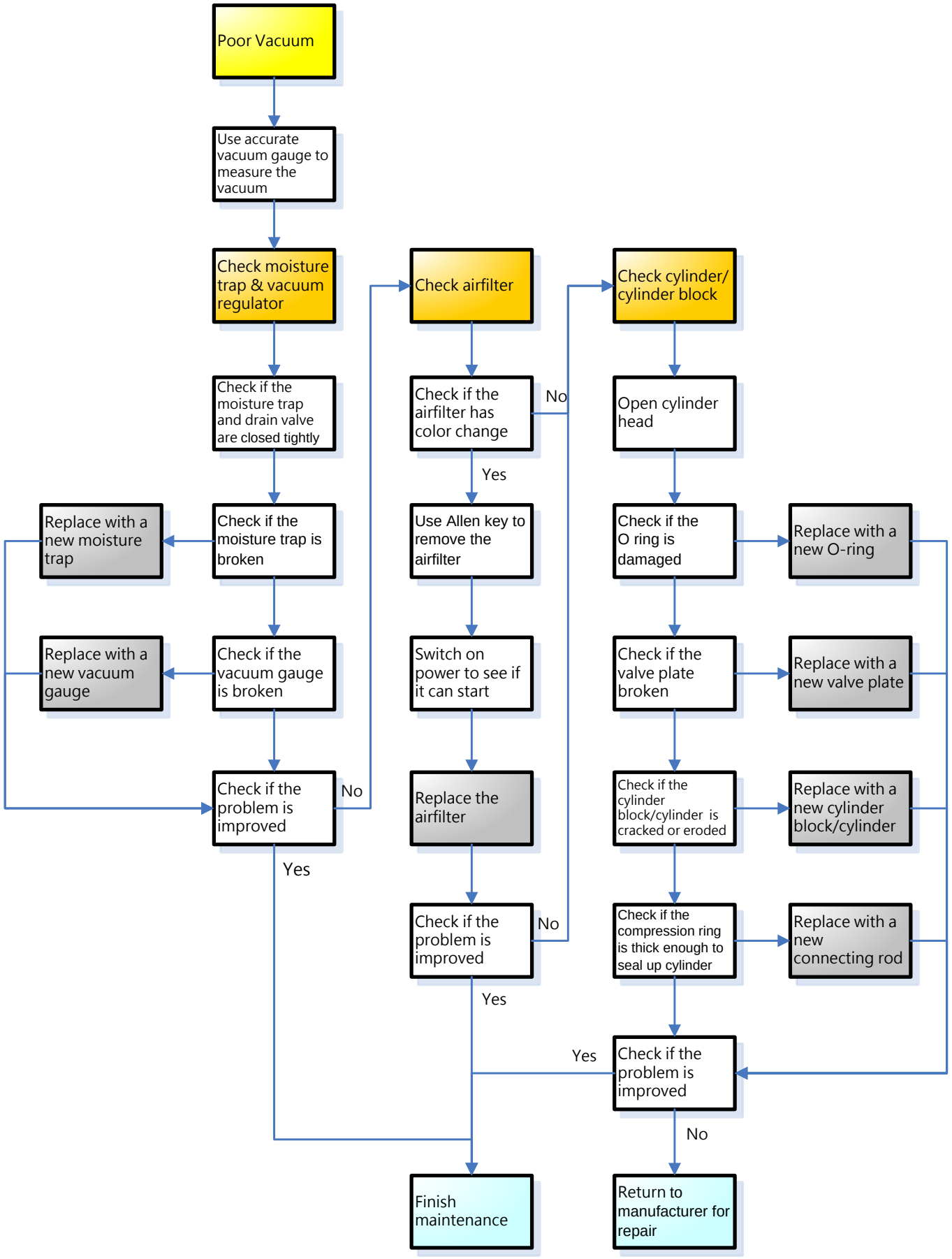
- Circuit Diagram:



Failure to start – Maintenance SOP



Poor / No Vacuum - Maintenance SOP



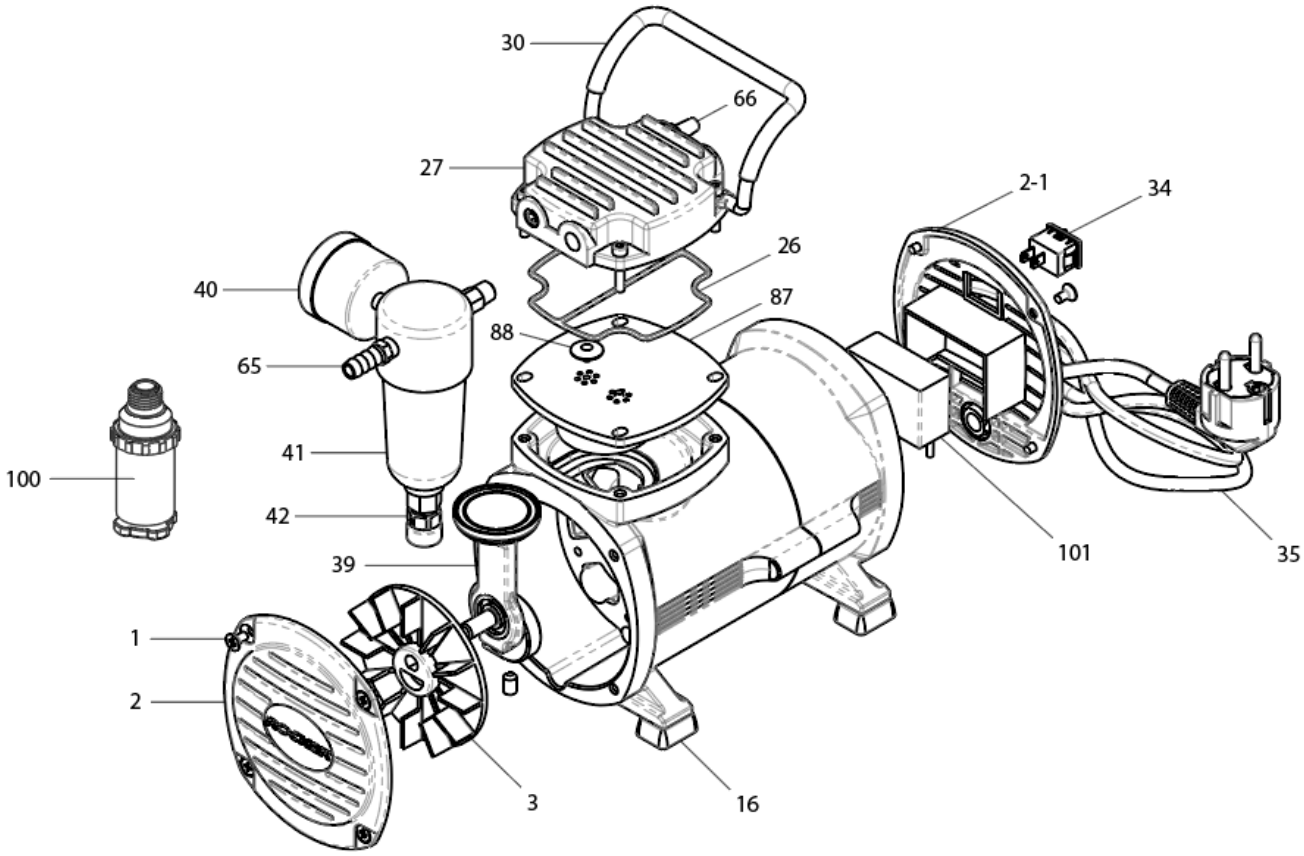
Most Common Problems

<table>
<tr><th>Common Problem</th><th>Cause</th><th>Solution</th></tr>
<tr><td rowspan="5">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. Air filter (air outlet)</td><td>a) Remove the airfilter, then turn on the pump to check if the pump can run→replace with new airfilter if the pump can run</td></tr>
<tr><td>3. 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>4. 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 300</td><td>6uf/250V</td><td>2uf/450V</td></tr><tr><td>Rocker 400</td><td>10uf/300V</td><td>4uf/450V</td></tr><tr><td>Rocker 410</td><td>10uf/300V</td><td>4uf/450V</td></tr><tr><td>Rocker 900</td><td>20uf/250V</td><td>6uf/450V</td></tr><tr><td>Rocker 901</td><td>20uf/250V</td><td>6uf/450V</td></tr><tr><td>Rocker 910</td><td>20uf/250V</td><td>6uf/450V</td></tr><tr><td>Rocker 911</td><td>20uf/250V</td><td>6uf/450V</td></tr></table></td></tr>
<tr><td>5. 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="2">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.</td></tr>
</table>

		c) Check if the “O-ring” inside the aluminum cape exist, deform or become harder→ replace with new part.
	3. Valve plate	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
	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. Compression ring	a) The thickness of compression ring is not thick enough to seal up cylinder→ 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

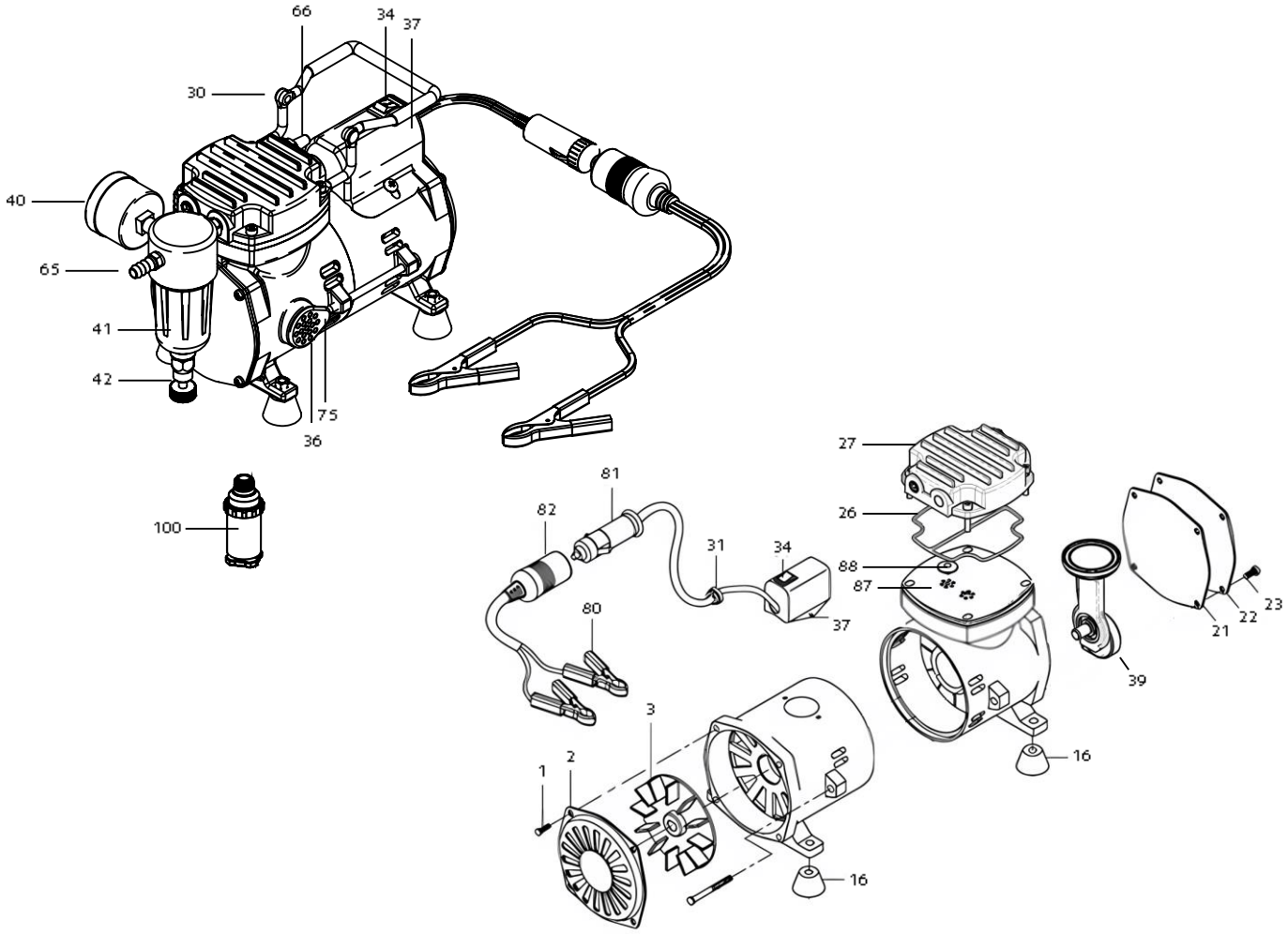
Exploded Part List

Rocker 300



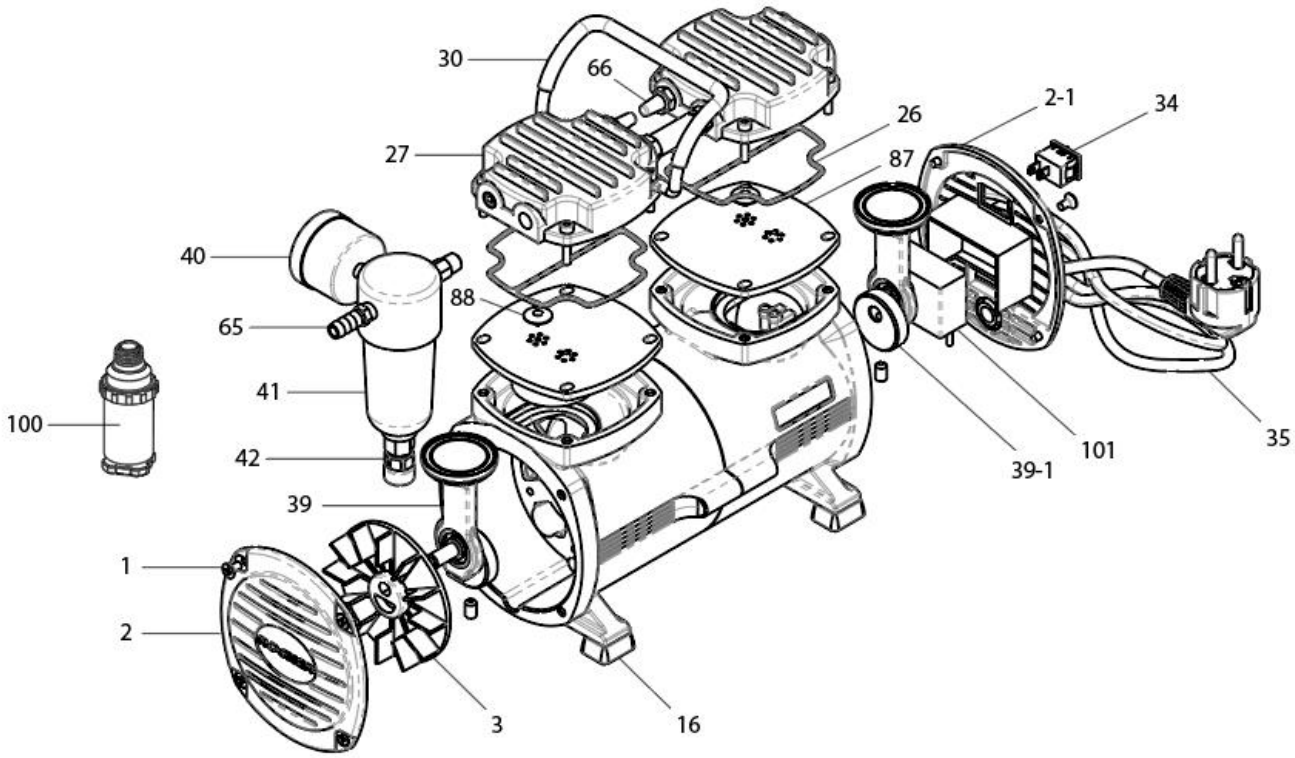
Index	Description	Quantity	Index	Description	Quantity
1	Screw	8	39	Piston set (long axis)	1
2	Fan cover (front)	1	40	Vacuum gauge	1
2-1	Fan cover (back)	1	41 & 42	Moisture trap + drain valve	1
3	Cooling fan	1	65	Hose connector	1
16	Rubber stand	4	66	Air filter (air outlet)	1
26	Sealing ring	1	87	PPS cylinder block	1
27	Cylinder head	1	88	Rubber valve plate	2
30	Handle	1	100	Prote™ Filter Cartridge	1
34	On/off Switch	1	101	Capacitor	1
35	Plug	1			

Rocker 300DC



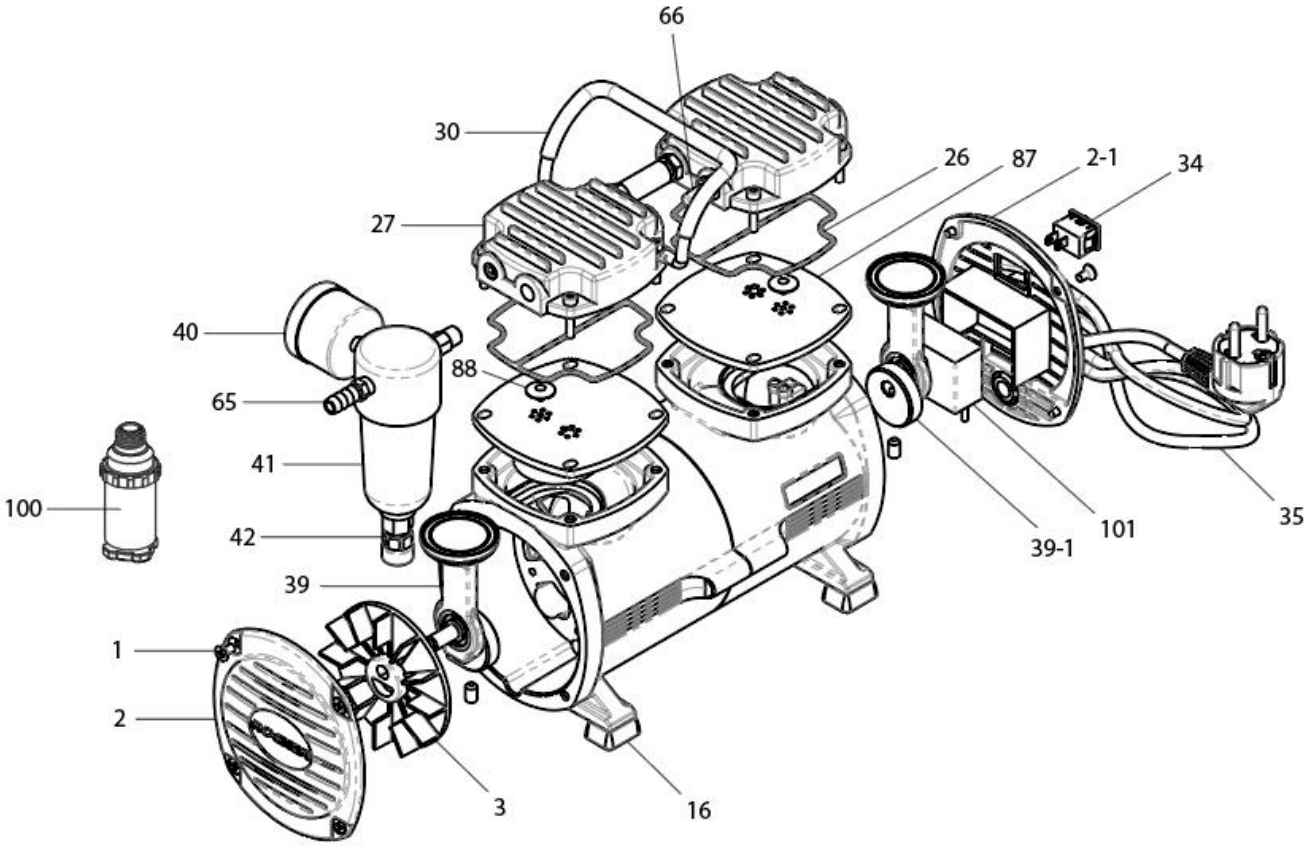
Index	Description	Quantity	Index	Description	Quantity
1	Set screw	8	37	Condenser cover	1
2	Fan cover	1	40	Pressure gauge	1
3	Cooling fan	1	41+42	Moisture trap + drain valve	1
16	Rubber stand	4	65	Hose connector	1
21	Paper pad	1	66	Air filter (air outlet)	1
22	Front body lid	1	75	Filter mesh	1
23	Set screw	4	80	Charging clips	2
26	O-ring	1	81	Plug for power supply of car	1
27	Cylinder bead	1	82	Plug cover	1
30	Handle	1	87	PPS cylinder block	1
34	On/Off Switch	1	88	Rubber valve plate	2
31	Cable protector	1	100	Prote™ Filter Cartridge	1
36	Air intake filter	1			

Rocker 400



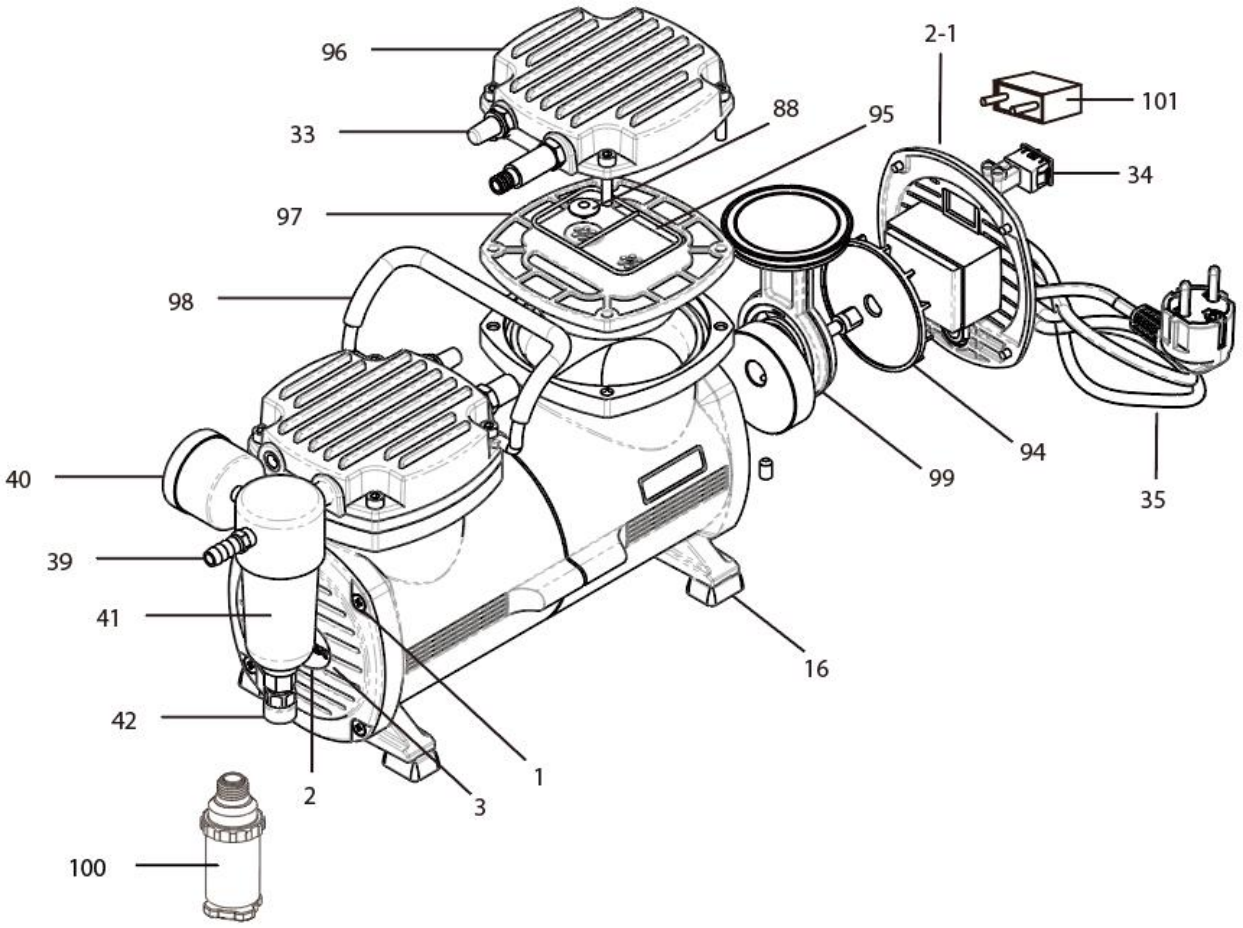
Index	Description	Quantity	Index	Description	Quantity
1	Screw	8	35	Plug	1
2	Fan cover (front)	1	39	Piston set (long axis)	1
2-1	Fan cover (back)	1	39-1	Piston set (short axis)	1
3	Cooling fan	2	40	Vacuum gauge	1
16	Rubber stand	4	41 & 42	Moisture trap + drain valve	1
26	Sealing ring	2	65	Hose connector	1
27	Cylinder head	2	66	Air filter (air outlet)	2
30	Handle	1	87	PPS cylinder block	2
34	On/off Switch	1	88	Rubber valve plate	4
101	Capacitor		100	Prote™ Filter Cartridge	1

Rocker 410



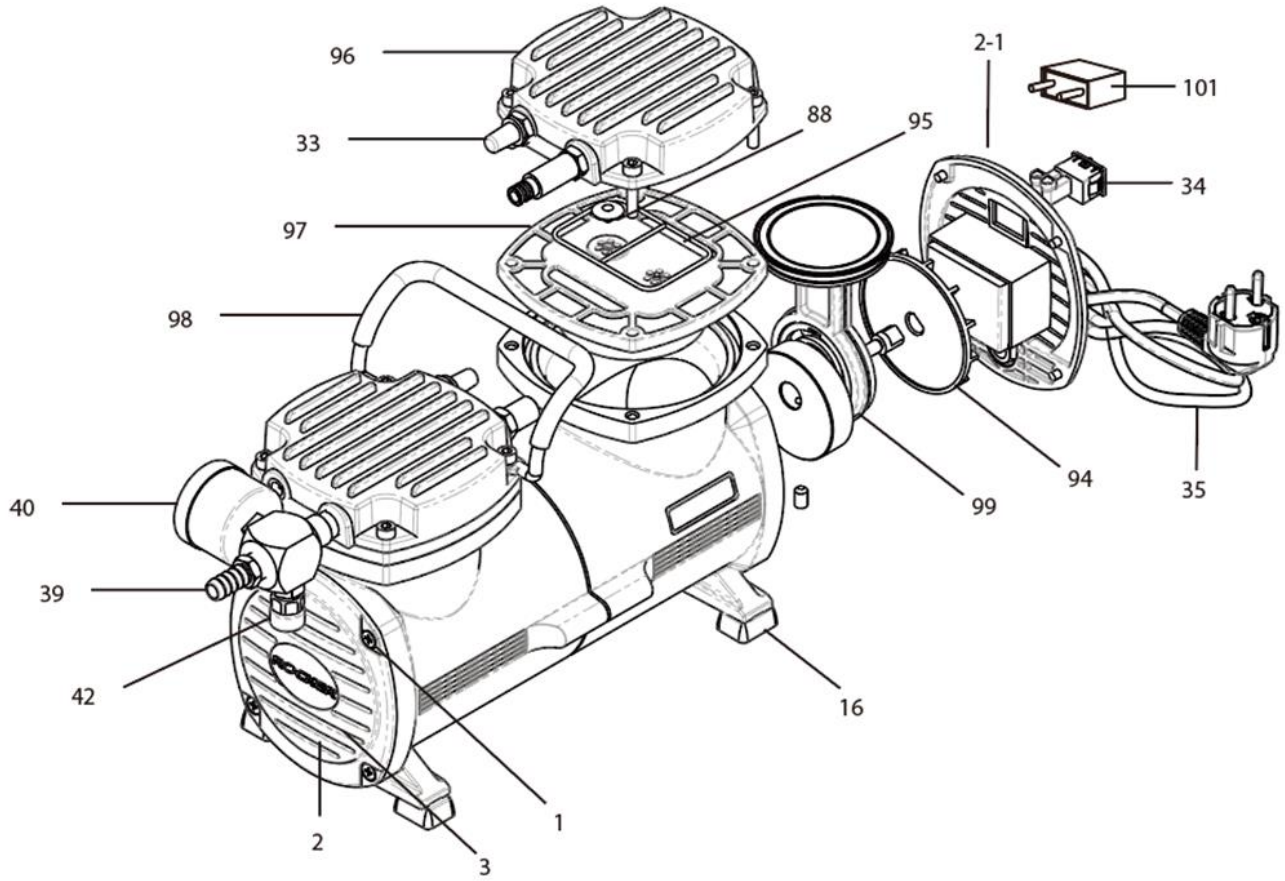
Index	Description	Quantity	Index	Description	Quantity
1	Screw	8	35	Plug	1
2	Fan cover (front)	1	39	Piston set (long axis)	1
2-1	Fan cover (back)	1	39-1	Piston set (short axis)	1
3	Cooling fan	2	40	Vacuum gauge	1
16	Rubber stand	4	41 & 42	Moisture trap + drain valve	1
26	Sealing ring	2	65	Hose connector	1
27	Cylinder head	2	66	Air filter (air outlet)	1
30	Handle	1	87	PPS cylinder block	2
34	On/off Switch	1	88	Rubber valve plate	4
101	Capacitor	1	100	Prote™ Filter Cartridge	1

Rocker 900



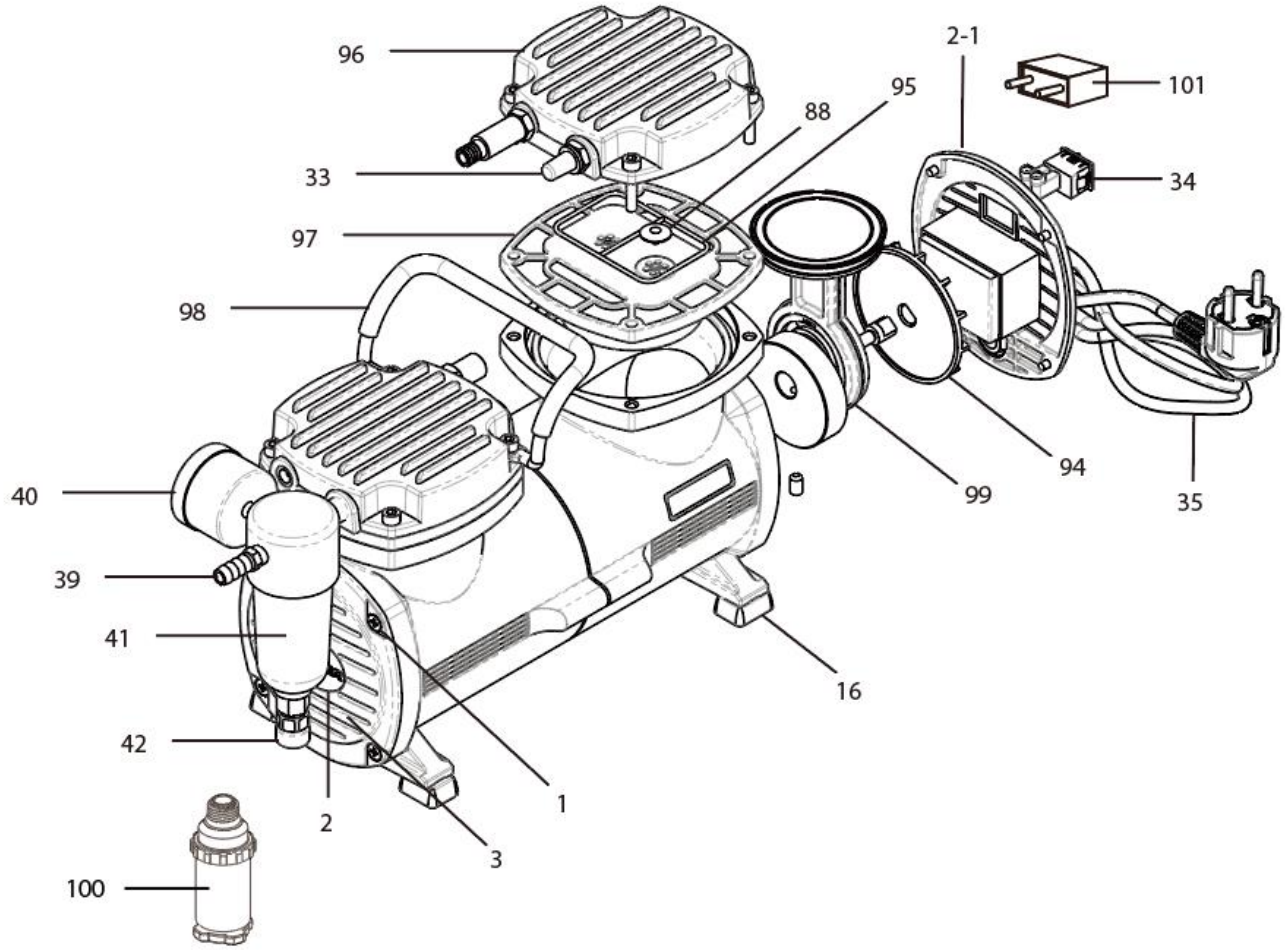
Index	Description	Quantity	Index	Description	Quantity
1	Screw	8	40	Vacuum gauge	1
2	Fan cover (front)	1	41 & 42	Moisture trap + drain valve	1
2-1	Fan cover (back)	1	88	Rubber valve plate	4
3	Cooling fan	1	94	Cooling fan	1
16	Rubber stand	4	95	Sealing ring	2
33	Air filter (air outlet)	2	96	Cylinder head	2
34	On/off Switch	1	97	PPS cylinder block	2
35	Plug	1	98	Handle	1
39	Hose connector	1	99	Piston set (short axis)	2
101	Capacitor	1	100	Filter Cartridge	1

Rocker 901



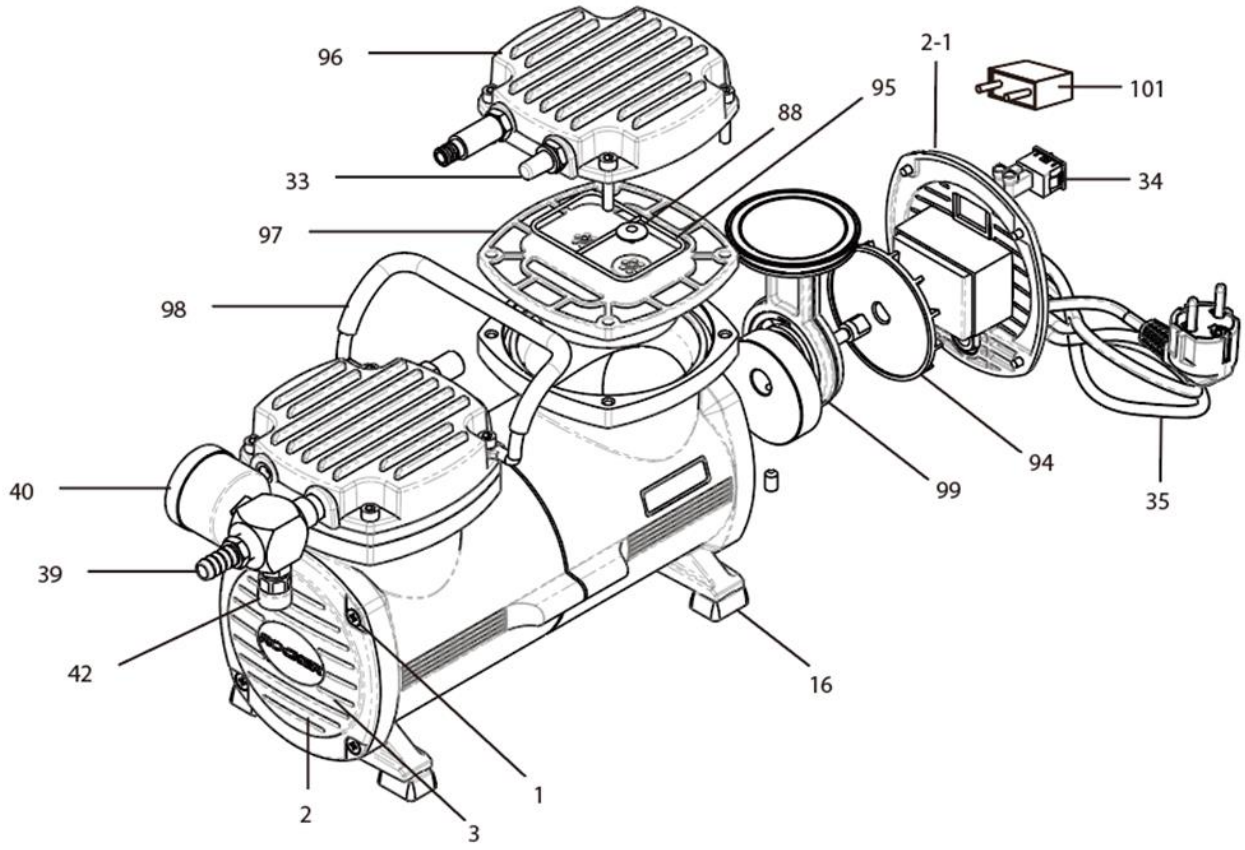
Index	Description	Quantity	Index	Description	Quantity
1	Screw	8	40	Vacuum gauge	1
2	Fan cover (front)	1	42	drain valve	1
2-1	Fan cover (back)	1	88	Rubber valve plate	4
3	Cooling fan	1	94	Cooling fan	1
16	Rubber stand	4	95	Sealing ring	2
33	Air filter (air outlet)	2	96	Cylinder head	2
34	On/off Switch	1	97	PPS cylinder block	2
35	Plug	1	98	Handle	1
39	Hose connector	1	99	Piston set (short axis)	2
101	Capacitor	1			

Rocker 910



Index	Description	Quantity	Index	Description	Quantity
1	Screw	8	40	Vacuum gauge	1
2	Fan cover (front)	1	41 & 42	Moisture trap + drain valve	1
2-1	Fan cover (back)	1	88	Rubber valve plate	4
3	Cooling fan	1	94	Cooling fan	1
16	Rubber stand	4	95	Sealing ring	2
33	Air filter (air outlet)	1	96	Cylinder head	2
34	On/off Switch	1	97	PPS cylinder block	2
35	Plug	1	98	Handle	1
39	Hose connector	1	99	Piston set (short axis)	2
101	Capacitor	1	100	Filter Cartridge	1

Rocker 911



Index	Description	Quantity	Index	Description	Quantity
1	Screw	8	40	Vacuum gauge	1
2	Fan cover (front)	1	42	drain valve	1
2-1	Fan cover (back)	1	88	Rubber valve plate	4
3	Cooling fan	1	94	Cooling fan	1
16	Rubber stand	4	95	Sealing ring	2
33	Air filter (air outlet)	2	96	Cylinder head	2
34	On/off Switch	1	97	PPS cylinder block	2
35	Plug	1	98	Handle	1
39	Hose connector	1	99	Piston set (short axis)	2
101	Capacitor	1			

Service Video Links

Model No.	Subject	Video Link
Rocker 300 Series Rocker 400 series Rocker 900 series	Replacement of air filter	https://drive.google.com/drive/folders/1kjpRSnBq2fFv097mMQAK9cvIo7fP2qNQ?usp=sharing
	Replacement of vacuum gauge	
	Replacement of filter cartridge	
	Replacement of bearing	
	Replacement of condenser and on/off switch	
	Replacement of O-ring / Valve plate	