Maintenance Instructions

For Robuschi & Busch Belt Driven Vacuum Pumps

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1. General

Sysmetric vacuum pumps are intended for pneumatically conveying plastic granules. The role of the vacuum pump is to produce an air flow that will move the material in the piping from the material source to the vacuum receiver.
The pump is connected through a filter system to the vacuum receiver.
The function of the filter system is to prevent the passage of particles that could damage the pump.
The material pipe should include a controlled air inlet close to the material source.
A single pump can be connected in such a way that it will serve several vacuum receivers via the control system which determines the correct work.

2. Safety Instructions

Always ensure that the power is disconnected before carrying out any service on the pump.
Please follow all lockout/tagout and any safety programs offered by your company.

In order to prevent damage, it is important to read and understand the safety instructions prior to carrying out any service operation on the pump.

It is important to tune the vacuum vent according to the instructions in the attached table according to the height above sea level at which the equipment is located.

3. Before Use

Verify integrity and intactness of the equipment.
Make sure that all electrical connections are completed and correct.
Make sure the oil level is correct and without leaks.

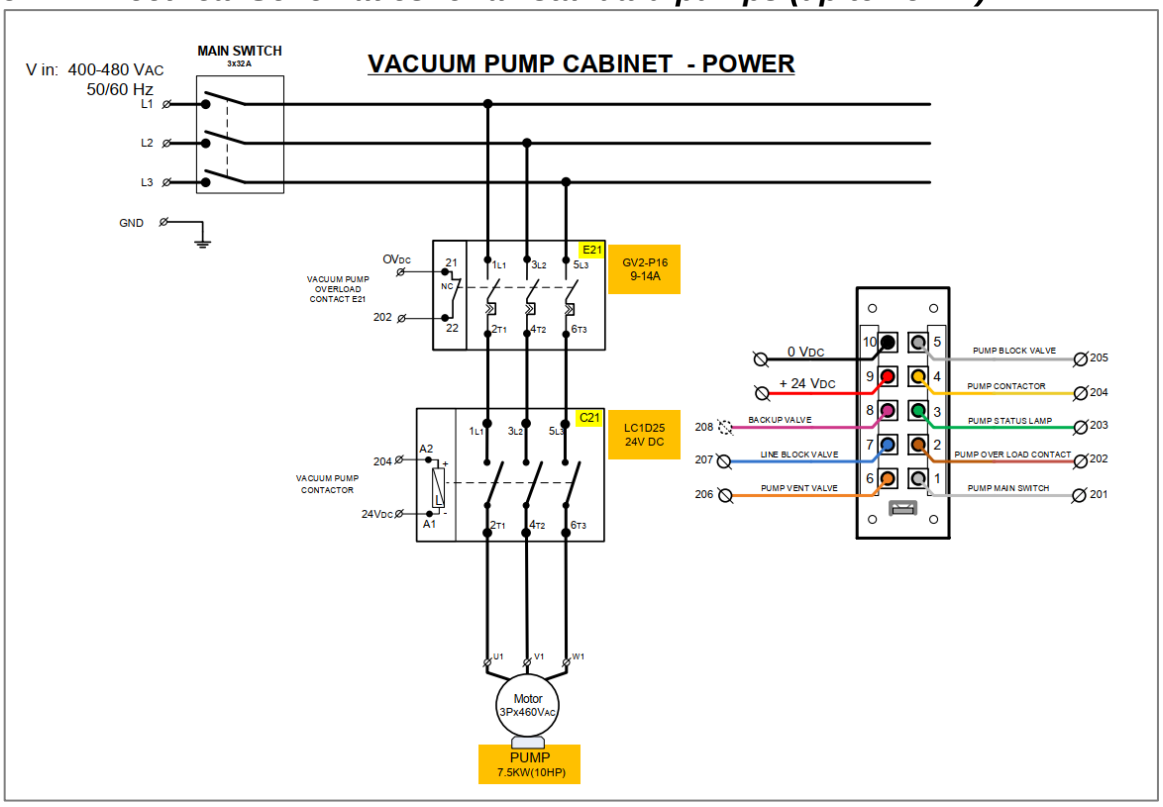
4. Mechanical Installation

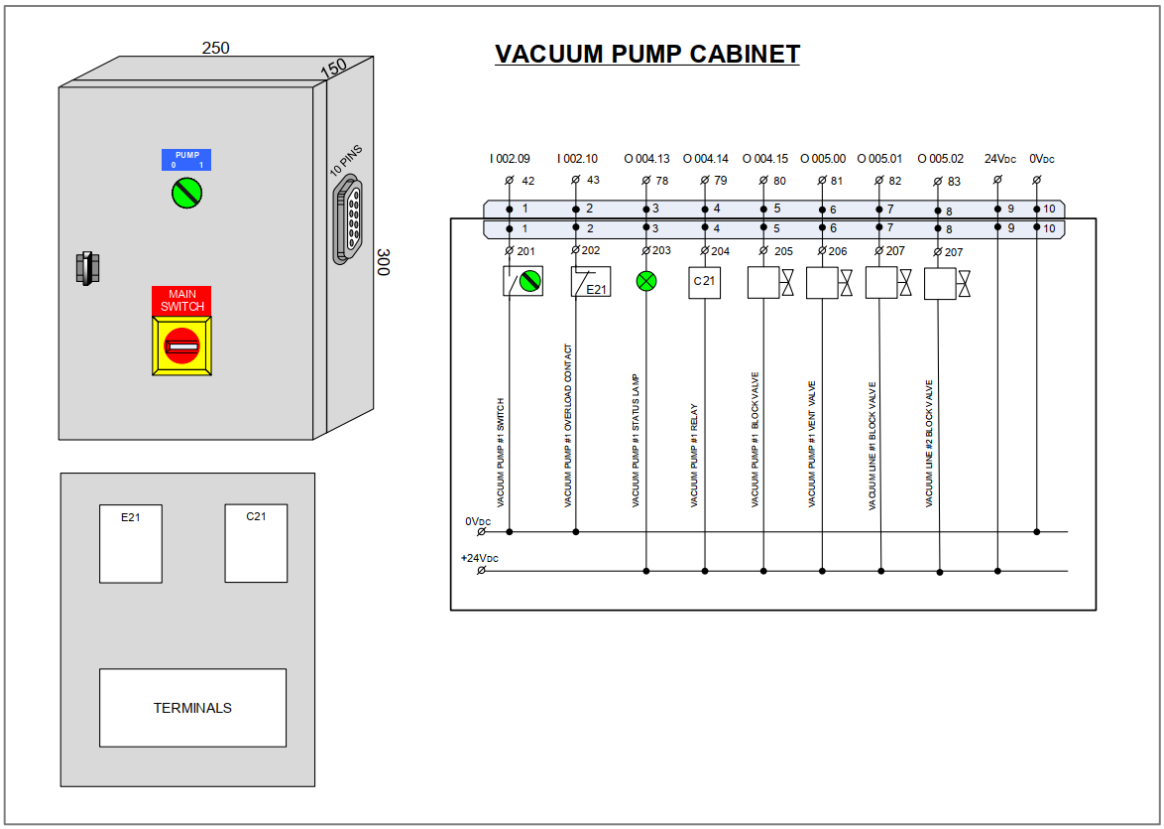
The installation of the pump and the filter systems must only be carried out by a qualified technician.
Make sure that the vacuum piping is properly connected as well as the compressed air connection (if required).
Make sure that all connections are secured and sealed.

5. Electrical Installation

Electrical installation should only by carried out by a qualified electrician according to the marking.
It is very important to verify the direction of rotation according to the marking on the pump.
It is important to make sure that the protection system is calibrated according to the label on the pump motor and according to the voltage and frequency of the power connection.

5.1. Electrical Schematics for all standard pumps (up to 15 HP)





6. Vacuum Vent Tuning

6.1. Vacuum Vent Tuning according to height above sea level

The values in this table refer to sea level as 0 and vacuum values as negative values:

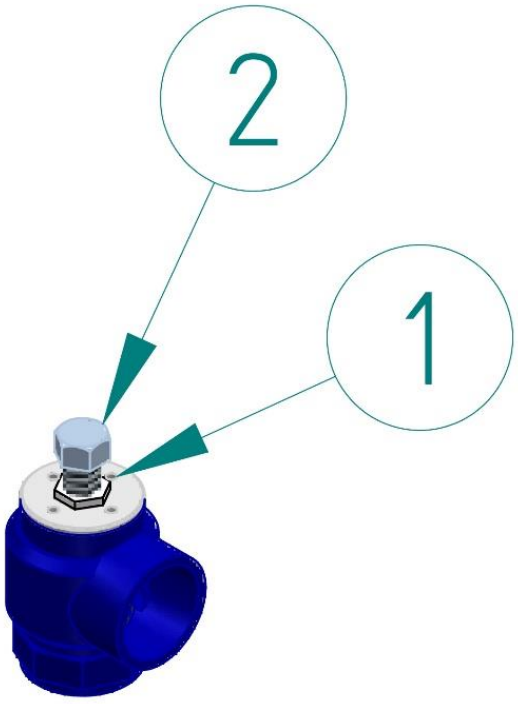
Altitude [meters/feet]	Altitude [meters/feet]	Set Vent Value [mbar]
Sea level	To 1500m/5000ft	-500 mbar
1500m/5000ft	To 1800m/6000ft	-475mbar
1800m/6000ft	To 2100m/7000ft	-475mbar
2100m/7000ft	To 2400m/8000ft	-475mbar

6.2. Vacuum Vent Tuning Process

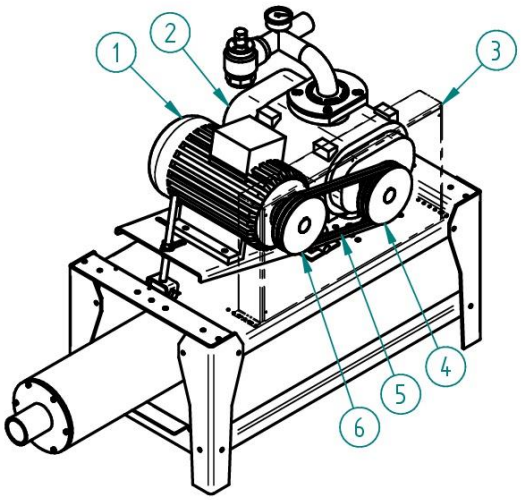
Tuning must be carried out when the pump is not connected to the vacuum line.
Prepare a suitable board to block the vacuum inlet.
Prepare a suitable spanner.

6.3. Vacuum Vent Tuning Process Stages

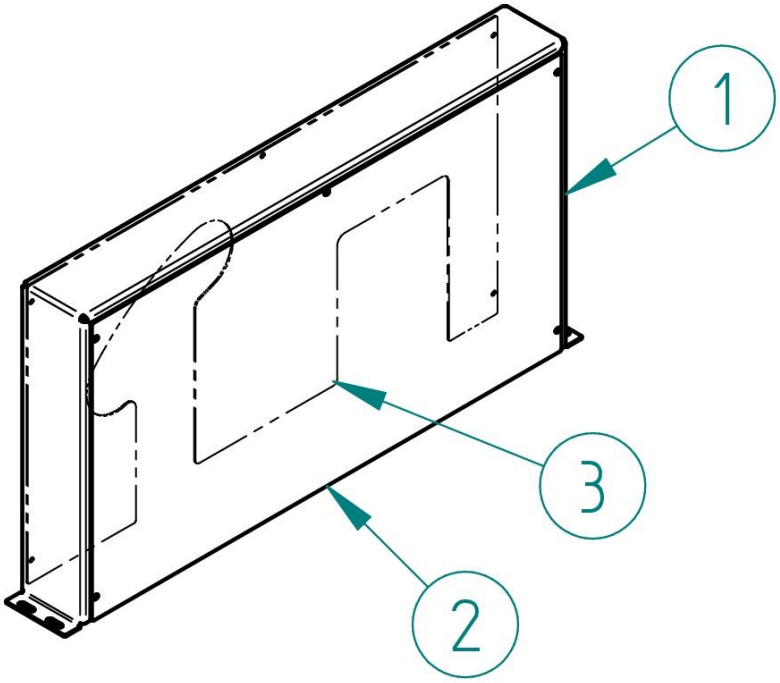
1. The pump must be started by a qualified technician and electrician
2. Loosen the security nut (1)
3. Start the pump and block the vacuum inlet
4. Adjust the vacuum level according to the table using the adjustment screw (2)
5. Turn off the pump
6. Tighten the security nut (1)
7. Go back, start the pump and make sure the direction is correct.



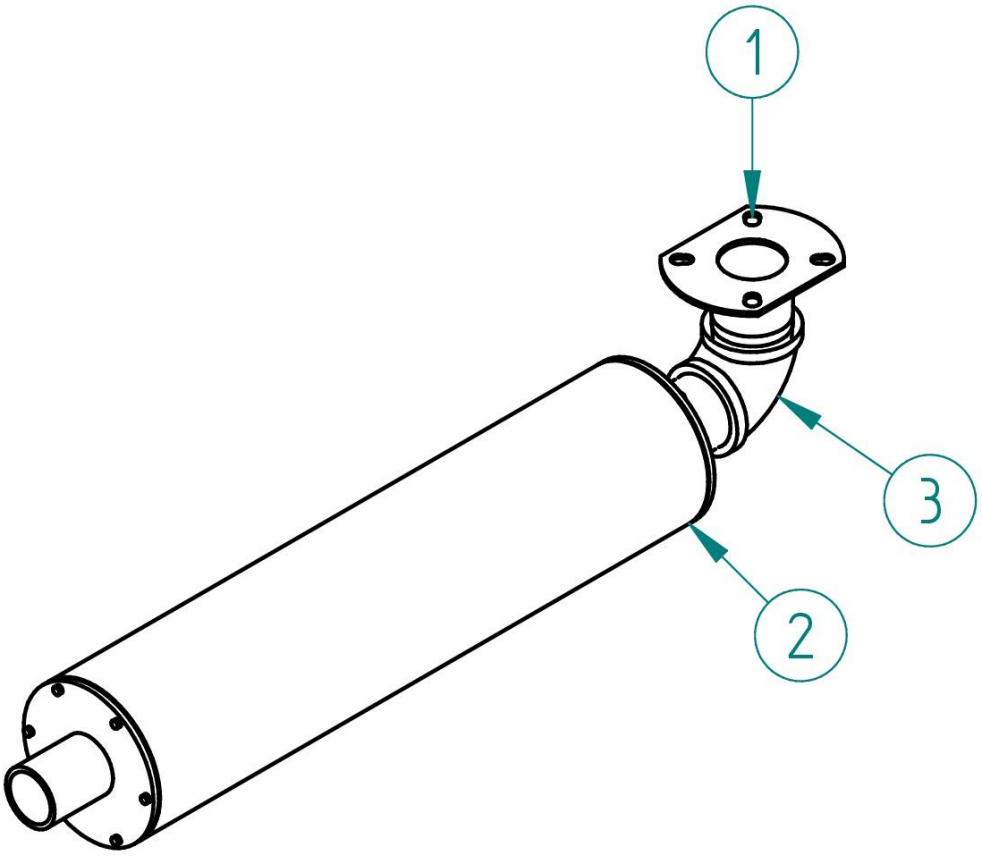
7. Vacuum Pumps BOM & Parts List



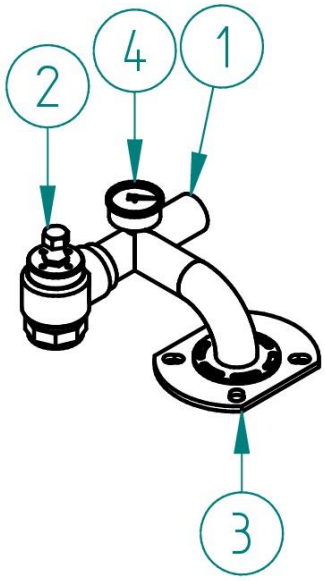
	Description	50HZ Boush VT-100	60HZ Boush VT100	Robuschi RBS35 50HZ	Robuschi RBS35 60HZ	50HZ Boush VT-150	60HZ Boush VT-150
1	Motor	E21-7.5-132	E21-7.5-132	E21-7.5-132	E21-7.5-132	E21-11-132	E21-11-132
2	Vacuum pump	M20-BCH-WT0100	M20-BCH-WT0100	M20-RBS35	M20-RBS35	M20-BCH-WT0150	M20-BCH-WT0150
3	Belt guard	M-A5010-001	M-A5010-001	M-A5010-001	M-A5010-001	M-A5010-001	M-A5010-001
4	Pump belt pully	M45-SPA-2-140-32	M45-SPA-2-150-32	M45-SPA-2-125	M45-SPA-2-125	M45-SPA-2-145-32	M45-SPA-2-170-32
5	Belt drive (2)	M45-XPA-1090	M45-XPA-1090	M45-XPA-1030	M45-XPA-975	M45-XPA-1120	M45-XPA-1120
6	Motor belt pully	M45-SPA-2-155	M45-SPA-2-140-38	M45-SPA-2-150-38	M45-SPA-2-125	M45-SPA-2-150-38	M45-SPA-2-145-38



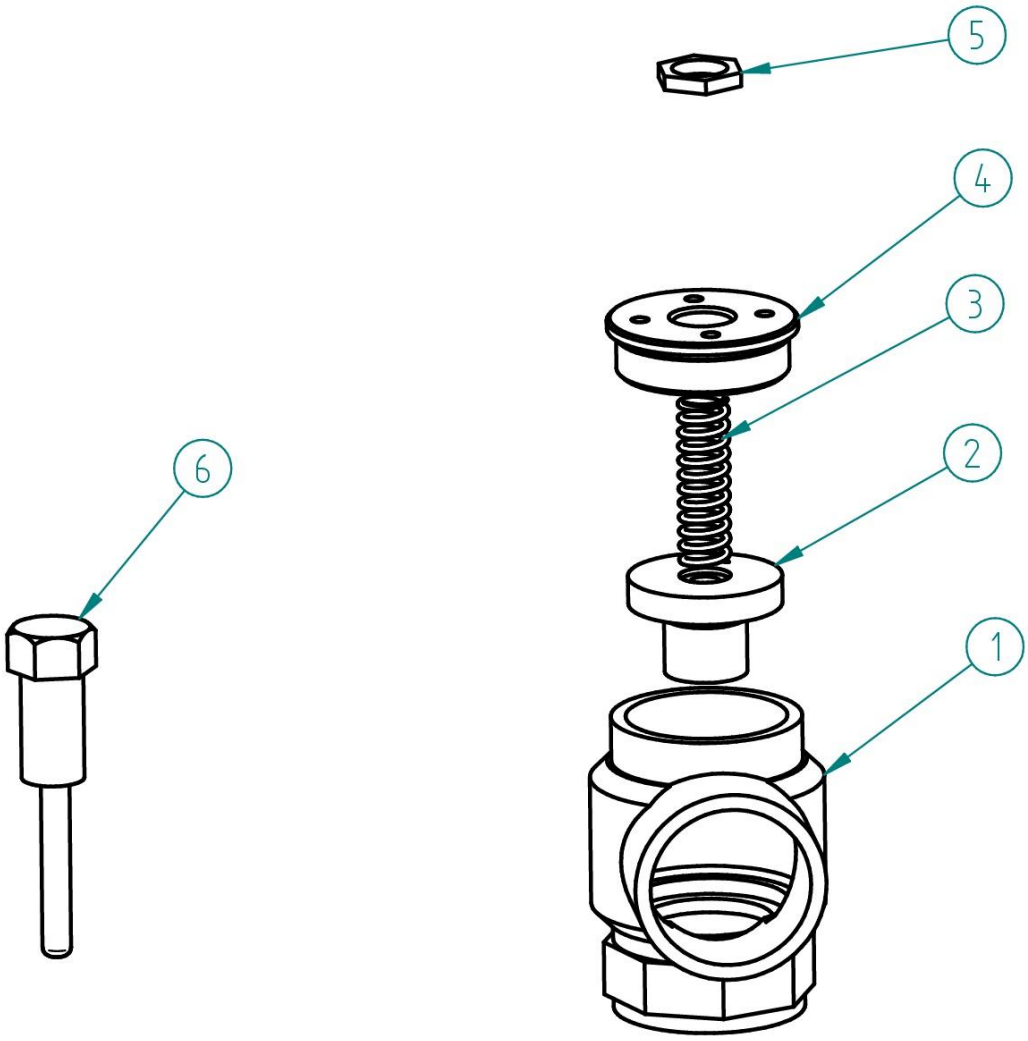
	Description	Part number
	Vacuum pump belts guard	M-A5010-001
1	Belts Guard frame	473-1
2	Belts Guard Inner wall	474-1
3	Belts Guard Outer wall	475-1



	Description	Part number
1	Silencer flange with 3" BSP nipple	M-M24-RBS35-100
2	Pump silencer	M24-UNV-1001
3	3" BSP Galvanized 90 Degree Elbow	M350-3-GLV



	Description	Part number
1	50 mm T assembly for belt drive vacuum pump	M-A210-UNV
2	Relief valve 2"	M-M23
3	RBS35/Busch inlet flange adapter	299E
4	Vacuum gage	P-250-1



	Description	Part number
	Relief valve 2"	M-M23
1	Valve body for vacuum pump / Auto. Filter vacuum valve	M10
2	Vacuum relief valve - plunger	M20
3	Vacuum relief valve - return spring	M1002
4	Air cylinder seat for vacuum pump/Auto. Filter vacuum valve	M11
5	Nut M22X1.5 SST	M340-22X1.5-SST
6	Vacuum relief valve – adjustment screw	M-M20-10A

8. Maintenance

Before performing any work or service to the conveying system, the main power breaker of the pump must be turned off. Lockout/tagout and company safety programs must be followed at all times.
All maintenance work, by a qualified employee only

8.1. Daily / Monthly Check

Filters must be checked daily and weekly.
It is necessary to verify the correctness and verify the correct oil level in the sight glass when the pump is at rest. The sight glass has marks at the top and the bottom, the oil level should be somewhere between the two
Cleanliness must be ensured.

8.2. Inspection Every Six Months

The integrity and proper tension of the drive belts must be verified.

8.3. Annual service

The oil must be changed in the 2 pump basins
It is important to use the 220 synthetic oil recommended by the manufacturer

8.4. Belt Drive Maintenance

A visual inspection must be performed in order to verify intactness and integrity of the belts weekly.
The belt tension must be checked.

9. Filter System

Sysmetric recommends installing a filter system in order to protect and prevent contamination from entering the vacuum pump.
There are several types of filters available:

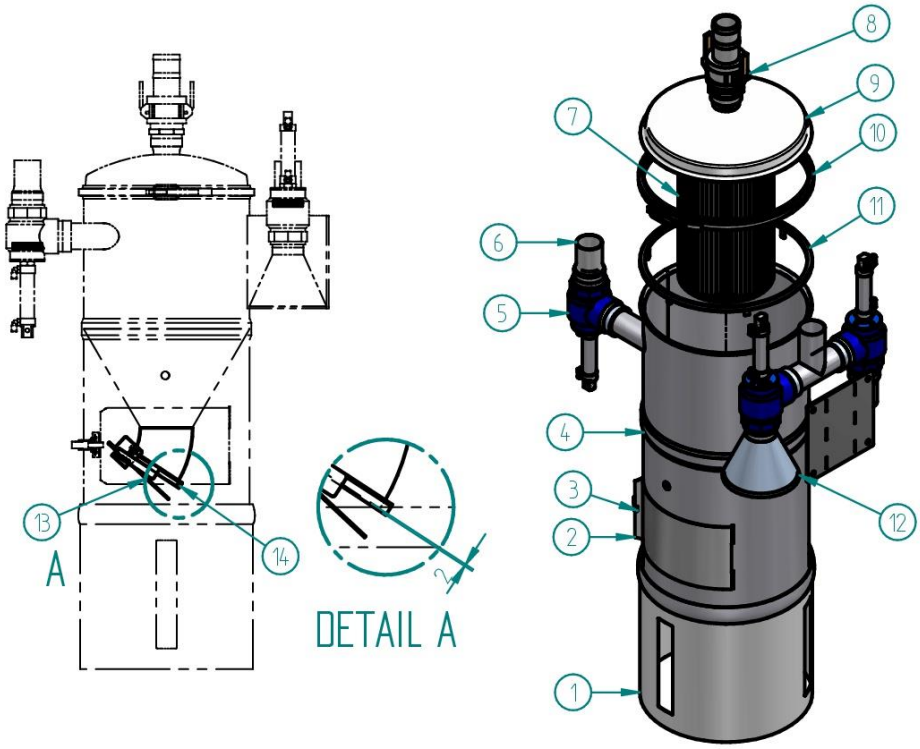
- Static filter with manual cleaning
- Automatic filter that performs automatic cleaning
- Cyclonic filter system

It is advisable to combine several levels of filters depending on the type of material used and the required output.

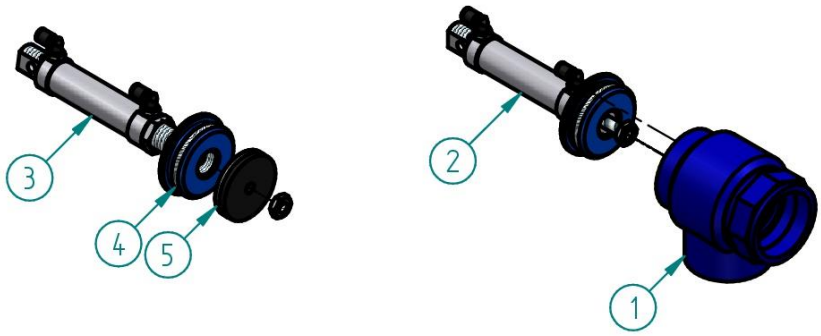
10. Troubleshooting

For troubleshooting and further information please refer to Vacuum Receivers Manual S230-VC107.

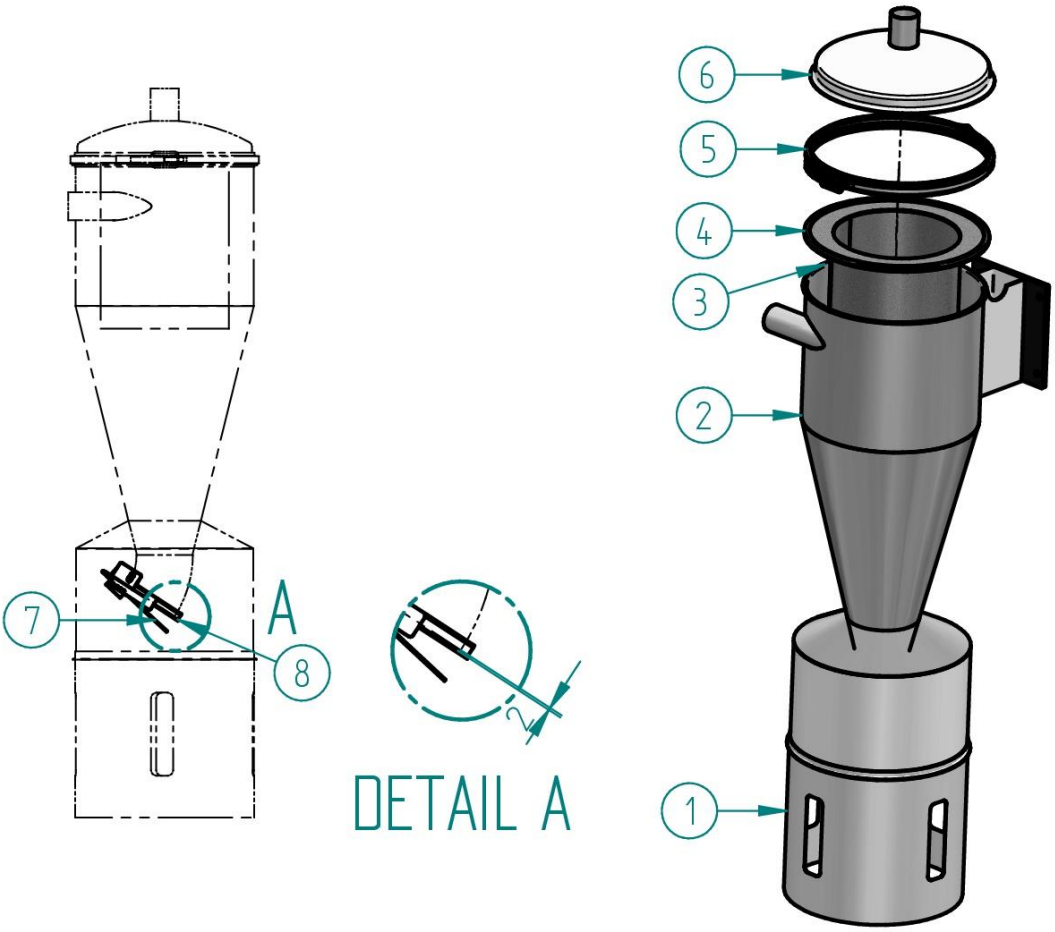
10.1. BOM & Part List for Vacuum Pump Automatic Filter



No.	Part No.	Part Description
1	M126-10	Dust collecting filter for automatic filter
2	192-2	Standard service door
3	M400	Latch - over center clamp spring lock 6701
4	M-B650-1000	Automatic filter assembly - Body only
5	M-A105	2" Vacuum valve for vacuum pump
6	M19-1001A	2" Union with 50.8mm /2" SST tube
7	M126	Filter cartridge P133765 & PA2369
8	M30-C200	Material Connector 2" "Oman" Female type C
9	M-M130-1021	Automatic Filter lid (assembly without filter)
10	M2-1A	S300 Band clamp without seal
11	M-A793-320	320 Gasket Kit
12	M-A501-2	Vacuum pump cooling filter
13	M-A12-100A	Discharge flap for Automatic Filter and cyclone (100mm)
14	M-M101-100	Discharge EPDM seal 100mm, S300 series /Automatic filter

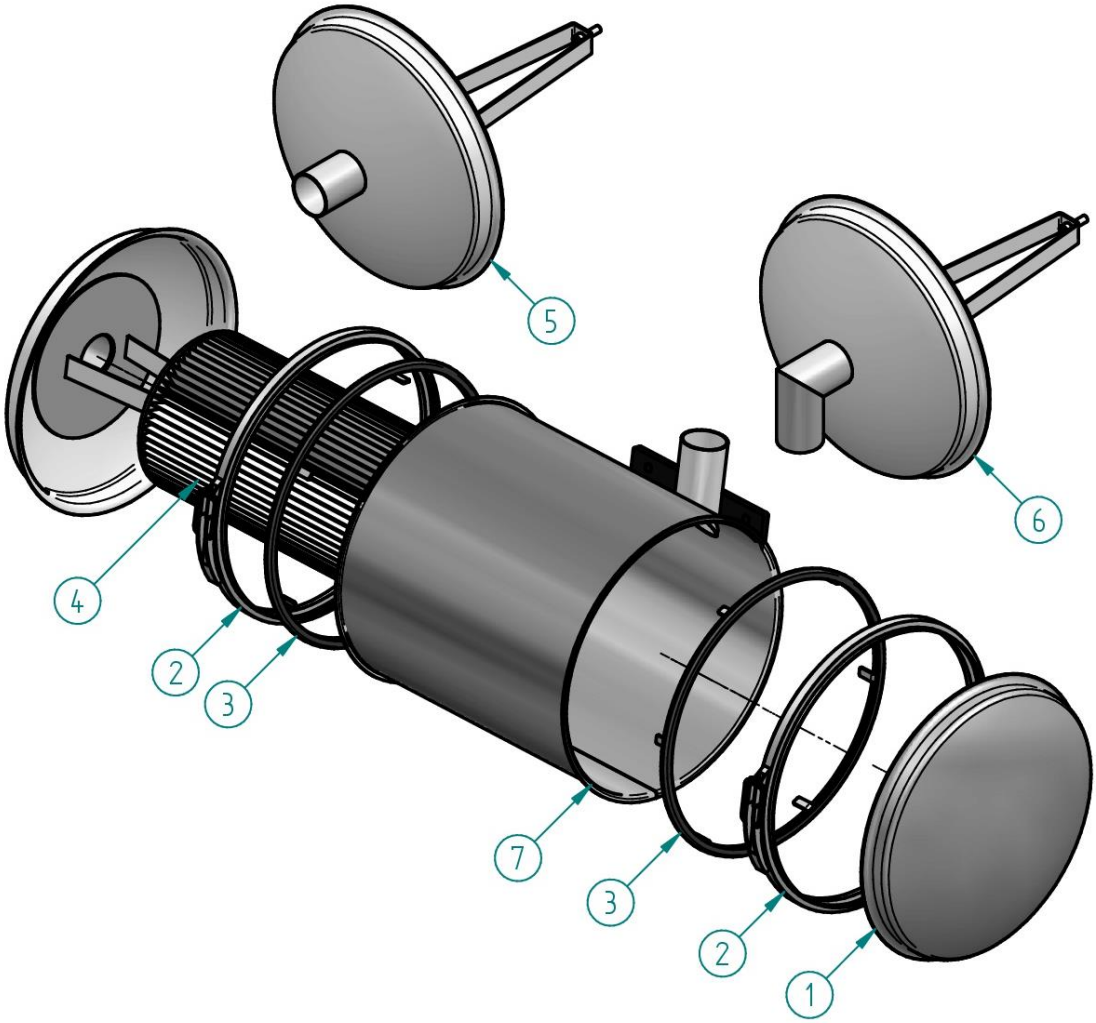


No.	Part No.	Part Description
1	M10	Valve body for vacuum pump / Auto. Filter vacuum valve
2	M-M11-102	Vacuum pump Valve Inner Kit
3	P10	Air cylinder ISO 25x50
4	M11	Air cylinder seat for vacuum pump/Auto. Filter v
5	M13-01	50mm / 2" vacuum valve seal support

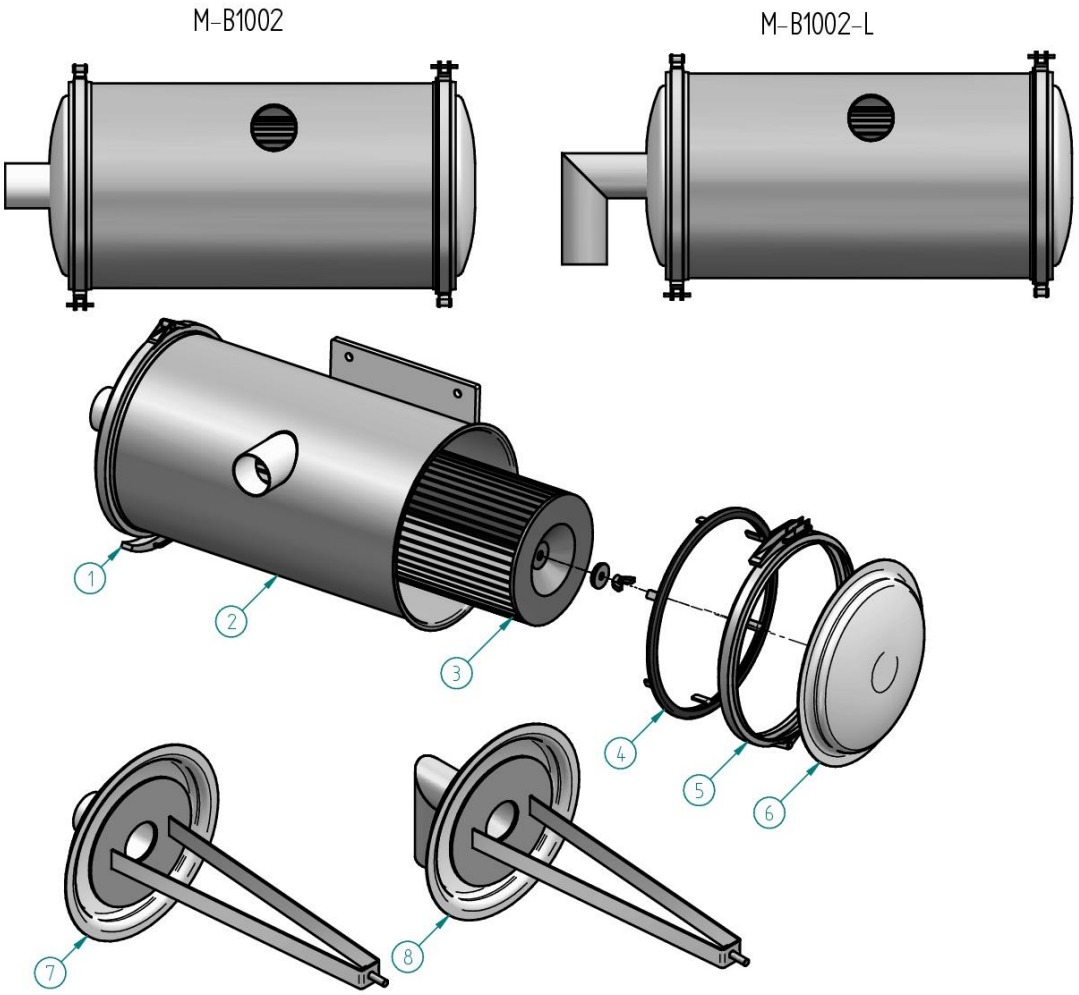


No.	Part No.	Part Description
1	M126-10	Dust collecting filter for automatic filter
2	M-B651-1010	Cyclone 320 main body only
3	M-B651-1001	Cyclone 320 inner separators (without seal)
4	M105-2-320	U type seal for 320mm clamp
5	M2-1A	S300 Band clamp without seal
6	M130-1022	Cyclone 320 lid
7	M-A12-100A	Discharge flap for Automatic Filter and cyclone (100mm)
8	M101-100	Discharge EPDM seal 100mm, S300 series /Automatic filter

10.2. BOM & Part List for Static Filter



No.	Part No.	Part Description
1	7-52	Static filter 320 lid
2	M2-1A	S300 Band clamp without seal
3	M-A793-320	320 Gasket Kit
*	M105-2-320	U type seal for 320mm clamp
*	793-320	320 seal support
4	M126	Filter cartridge PI33765 & PA2369
5	M-M130-1021A	Static Filter 320 lid filter side (without filter)
6	M-M130-1021AL	Static Filter 320 lid, filter side with elbow outlet
7	M-B652-1000	Static filter 320 housing



No.	Part No.	Part Description
1	M2-2	S230 Band clamp with silicon seal
2	M-B1002-1000	Static filter 230 housing
3	M126-2	Static filter element P181059
4	M-A793-230	S230 Gasket Kit for cover stripped band
	793-230	230 seal support
	M105-2-230	U type seal for 230mm hopper
5	M2-2A	S230 Band clamp without seal
6	M130-2	Static filter lid
7	M-A-M130-1001A	Static Filter 230 lid, filter side with straight outlet
8	M-A-M130-1001L	Static Filter 230 lid, filter side with elbow outlet