

Please refer and save these instructions. Read carefully before attempting to assemble, install, operate or maintain the product described. Protect yourself and others by observing all safety information. Failure to comply with instructions could result in personal injury and/or property damage! Retain instructions for future reference.

# Dayton® Sand Filtration Combo

## Description

This Dayton Sand Filter is durable, easily maintained filter for large and small pools. The easy-to-use Multipurpose Valve lets you select any Valve-Operation with a simple lever action. Even distribution of water over the sand bed is made possible by the top diffuser. The materials used are dependent and are suitable for all weather performance and the filter can be used under direct sunlight.

## Unpacking

When unpacking the unit, inspect carefully for any damage that may have occurred during transit. Check for missing accessories or damaged parts. Transit damage claims should be made to the shipping company.

## Specifications

(For sand filter only)

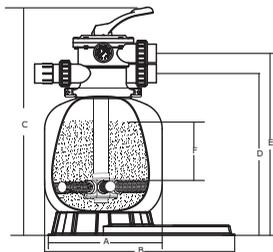
Recommended Silica sand for 4YED4, 4YED5, 4VMN3, 4VMN5 and 4VMN9 is approximately 0.5mm to 0.8mm.  
Model: 4YED4, 4YED5

1. Filter Area: 2.37 (sq ft)
2. Max. Flow Rate: 47.5 GPM
3. 8-Hour Turnover: 23424 Gal
4. Max. Operating Pressure: 28 PSI
5. Max. Water Temperature: 100°F
6. Recommended amount of sand: 187.4 lb
7. Dimension "A" = 20.75 inches (527mm)
8. Dimension "B" = 29.92 inches (760mm)
9. Dimension "C" = 33.27 inches (845mm)
10. Dimension "D" = 26.38 inches (670mm)
11. Dimension "E" = 28.74 inches (730mm)
12. Dimension "F" = 9.25 inches (235mm)

Model: 4VMN3, 4VMN5, 4VMN9

1. Filter Area: 3.34 (sq ft)
2. Max. Flow Rate: 67 GPM
3. 8-Hour Turnover: 32,334 Gal

4. Max. Operating Pressure: 28 PSI
5. Max. Water Temperature: 104°F
6. Recommended amount of sand: 319.7 lb
7. Dimension "A" = 24.68 inches (627mm)
8. Dimension "B" = 29.92 inches (760mm)
9. Dimension "C" = 37.40 inches (950mm)
10. Dimension "D" = 30.51 inches (775mm)
11. Dimension "E" = 32.87 inches (835mm)
12. Dimension "F" = 11.81 inches (300mm)



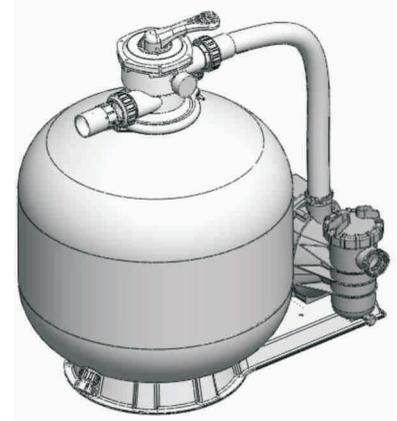
## General Safety Information

### ⚠ WARNING

It is the responsibility of the user to operate the sand filter in conformance with the Operating Instructions Manual.

### ⚠ DANGER

Hazardous pressure alert. Improper filter assembly or disassembly, will cause unit to explode under pressure. To avoid danger which could cause severe injury or major property damage, always follow service instructions affiliated with this manual



when working on filter.

### ⚠ WARNING

Explosion Hazard. Never operate this filter system above 28 Pounds Per Square Inch Pressure or above 100 Degree F.

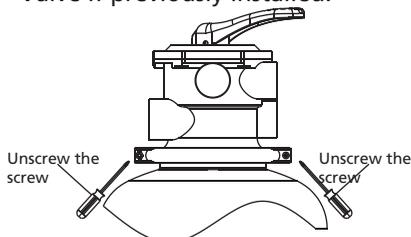
1. This filter operates under high pressure. When any part of the circulating/filtration system (e.g. valve, filter, check-valves etc) is serviced, air can enter the system and become pressurised. Pressurised air can cause the lid of valve to be blown off which can result in severe injury, death or damage to property.
2. Turn off pump before changing valve operation.
3. Turn off pump when servicing
4. To prevent damage to the circulating/filtration system. Clean pump strainer (pre-filter), skimmer basket regularly.
5. Do not disassemble to the Multiport Valve
6. Check with your local authority to comply with the standard and requirement on Sand Filter installation and operation.

# Dayton® Sand Filtration Combo

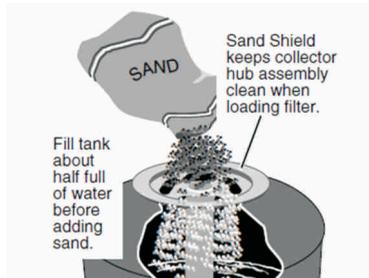
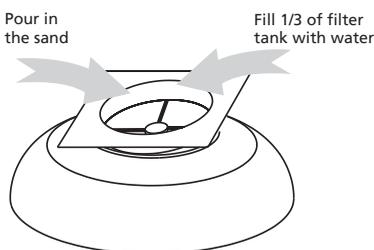
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Installation only simple tools (Screwdriver and wrenches) and pipe sealant for plastic adaptors are required to install and service the filter.

1. Filter should be placed on very firm ground or a level concrete slab or equivalent. Position the filter so that the piping connections, Multiport Valve are convenient and accessible for operation and services.
2. Disassemble the Multiport Valve by unscrewing the two screws of the Clamp Lock at the bottom of the Valve if previously installed.



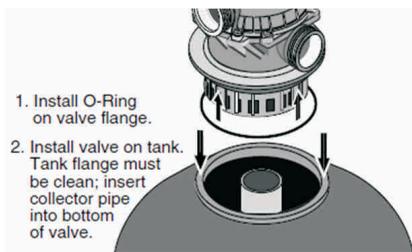
3. Using the Sand Fill-Cover to cover the internal center-piping to prevent sand from entering it.
4. Fill the tank with water to the level that covers the laterals about 1/3 of the tank is recommended. This will avoid damages to the laterals (crepinas) by the force of the sand when pouring into the filter.



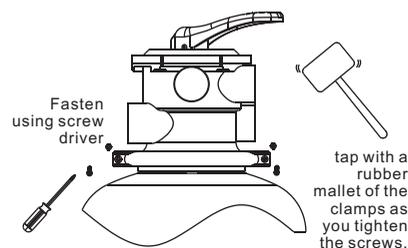
5. Pour the recommended amount of sand into the tank, making sure that the center-pipe remains centred and vertical.
6. Level the surface of the sand upon completion.
7. Remove the Sand-Fill-Cover.
8. Carefully remove all sand particles from the valve mounting surface.



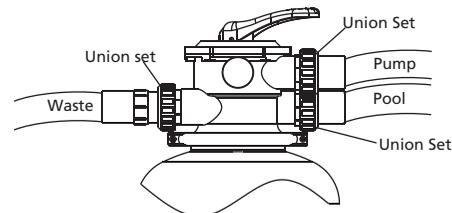
9. Place the o-ring into the groove of the filter tank neck.
10. Lower the Multiport Valve carefully into position so that its underside engages with the center-pipe. Rotate the valve until the inlet is approximately in line with the pump.



11. Place the Clamp Lock around the tank and the valve. Secure using the screw provided.
12. Firmly tap with a rubber mallet outside of the clamps as you tighten the screws.



13. Tighten the screw until the Multiport Control Valve is in situ and properly assembled to create a water tight seal. Do not over tighten.
14. Install the pressure gauge into the threaded opening on the Multiport Valve.
15. Install the union sets and the backwash union set.
16. Connect pump to the control valve opening marked "PUMP".
17. Make return to pool pipe connection to control valve opening marked "RETURN".
18. Connect the waste water pipe to the control valve opening marked "WASTE".



19. To prevent water leakage, be sure all pipe connections are tight.

**Models 4YED4, 4YED5, 4VMN3, 4VMN5, 4VMN9**

20. Prior to starting the filtration process by turning on the pump, we highly recommend that you read through the pump instruction manual to ensure proper installation and to avoid the risk of electric shock.

**START-UP PROCEDURE**

1. Be sure the correct amount of filter sand media is in the tank and all connections have been made and are secure.
2. Turn the Multiport Valve handle to the "Backwash" position. Press the handle downward before turning.
3. Start the pump according to pump instruction manual (be sure all suction and return lines are open).
4. Once water flow is steady out the waste line, run the pump for at least 2 minutes. The initial backwashing of the filter is recommended to remove any impurities or fine sand particles in the sand media.
5. Turn the pump off and set the control valve to RINSE position. Start pump and operate until water in sight glass is clear about 1 / 2 to 1 minute. Turn pump off, set valve to FILTER position and restart pump. Your filter is now operating in the normal filter mode, filtering particles and dirt from the pool water.
6. Take note of the initial pressure gauge reading for future reference. Variation may occur from pool to pool.
7. Adjust pool suction and return valves to achieve desired flow. Check system and filter for water leaks and tighten connections, bolts, nuts as required.

**NOTE:**

During the initial clean-up of the pool water, it may be necessary to backwash

frequently due to the unusually heavy initial dirt load in the water.

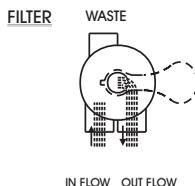
**IMPORTANT:**

To prevent unnecessary strain on piping system and Multiport valve, always turn off the pump before changing the operation of the control valve. To prevent damage to the pump and filter and for proper operation of the system, clean pump strainer (basket) and skimmer basket(s) regularly.

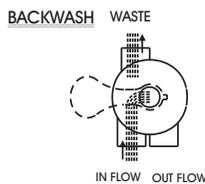
**MULTIPORT VALVE**

**FUNCTIONS:**

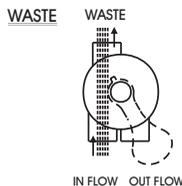
**FILTER** gives downward flow through the filter bed. This position can also be used for vacuuming.



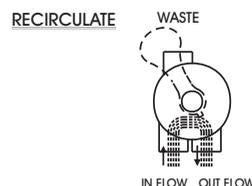
**BACKWASH** gives upward flow through the filter bed that removes the dirt from the sand and carries it to the waste.



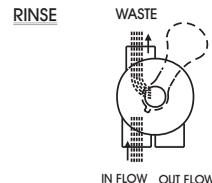
**WASTE** is for pumping water from the pool. It allows the flow from the pump to bypass the filter and go directly to the waste. You can also use this position to vacuum heavy concentration of debris.



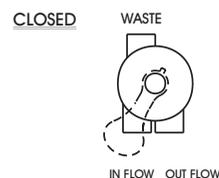
**RECIRCULATE** bypasses the filter to circulate water through the pool system.



**RINSE** gives a downward flow that settles the filter bed after backwashing and carries any remaining loose dirt to the waste.



**CLOSED** prevents only backflow of water from pool during pump maintenance.



To **WINTERISE**, set the control valve handle in the middle between RINSE and FILTER. This will allow air to leave or enter the tank to help priming and draining. Only to be used when the pump is off.

**PUMP**

**PRIMING PUMP**

After finishing the work for installation for the pump, for connection the

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# Dayton® Sand Filtration Combo

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suction and discharge pipe, then start the pump.  
When water level is higher than inlet of the pump, turn on the gate valve in suction and discharge pipe, then plug in the pump. The pump will start to work.

When water level is lower than inlet of the pump, turn off the gate valve in suction and discharge pipe and open the cover for the filter basket and fill in water, then plug in the pump. And then turn on the gate valve in suction and discharge pipe. The pump will start to work.

When not use the pump, unplug it and turn off the gate valves in suction and discharge pipes.

## Pump Maintenance

**⚠ CAUTION** UNPLUG THE PUMP BEFORE ANY MAINTENANCE, CLEANING AND WHEN NOT IN USE.

The pump does not require any special maintenance. If the pump will not be in use for a long period, it is recommended to disassemble, clean and store it in a dry, well ventilated place. The routine maintenance is inspection and cleaning the filter basket. Debris or trash will collect in the filter basket and will choke off water through pump.

Please follow below instructions:  
Open the cover for the filter basket, take off the filter basket and flush it with water. When the filter basket is clean, replace it into the pump and turn the cover clockwise to tighten itself.

Wipe the outside of the plastic enclosure and the metal enclosure for

the motor with a moist cloth then dry them with another dry cloth.

## Note

1. Allow for gate valves in suction and discharge pipe.
2. The suction pipe should have the diameter equal to or larger than that of the discharge pipe to avoid loss of the head and to improve the efficiency.
3. Keep both pipes as straight and as short as possible. Not connect an elbow directly into the pump inlet and please use a straight pipe to allow a proper entry for the water.
4. Position both pipes so that they should not rest above the pump in any case to avoid any dripping on the motor.
5. Rigid or flexible PVC pipe can be used. Pipe ends should be clean and free of any flash caused by the cutting operation.
6. Make sure that all the connections are sealed well.
7. To reduce friction loss, do not install pump at 10Ft geometrical higher than water level.
8. If the pipes are broken or damaged, please contact the qualified, licensed personnel to change or repair the pipe.

**Models 4YED4, 4YED5, 4VMN3, 4VMN5, 4VMN9**

**TROUBLE SHOOTING**

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<b>SYMPTOM</b>	<b>Possible Cause(s)</b>	<b>Correction Action</b>
Sand accumulation in pool	1. Sand particals too small or too much sand	1. Check the recommended silica sand size (refer to page 1 of the manual)
	2. Flow too high or Sand Bed Calcified	1. Check the recommended silica sand size (refer to page 1 of the manual)
	3. Broken laterals or loose center pipe	3. Check valve to ensure proper function
	4. Control valve not engaged	4. Check valve to ensure proper function
	5. Air accumulation in filter	5. Check valve to ensure proper function
Sand residue from Backwash Hose	1. Follow too high	1. Check sand volume in the filter
	2. Too much sand in tank	2. Check flow rate
Inadequate filtering	1. Dirty make-up water	1. Check sand volume in the filter
	2. Sand is too low	2. Check sand partical size to ensure it confirms with recommended sand size requirements
	3. Algae in filter or excessive dirt in pool	3. Check flow rate
	4. Calcified sand bed or Heavy Swimmer Load	4. Check Pressure Guage Reading to see if Backwash is needed. If the pressure is 20% higher than the cleaning reading, proceed with Backwash Operation
Short Filter Cycle	1. Dirty Filter	1. Check Flow rate and proceed with Backwash Operation
	2. Sand particals too small or too much sand	2. Check sand volume in the filter
	3. Algae in filter	3. Check Flow rate and proceed with Backwash Operation
	4. Excessive dirt in the pool	4. Clean pool to remove excess dirt
	5. Sand Bed Calcified	5. Proceed with Backwash Operation
	6. Backwash Operation cycle too short	6. Proceed with a thorough Backwash Operation
Filter Leaks	1. Tank Cracked	1. Inspect Filter Tank for Damages
	2. Drain Plug not securely fastened	2. Fasten the Filter Drain Plug
	3. Improper installation of the Valve	3. Check Valve Installation
	4. O-ring for Tank/Valve had been damaged	4. Check O-ring for damages
Abnormal loss of Pool Water	1. Leak inside Control Valve	1. Check valve to ensure proper installation and operation
	2. Leakage from pool or piping system.	2. Check pool and piping system for leakages
High Pressure Filter	1. Dirty filter	1. Proceed with Backwash Operation
	2. Calcified sand bed	2. Proceed with Backwash Operation
	3. Return lines too small.	3. Check return line to ensure proper flow and installation
Low pressure in filter	1. Valve incorrectly set	1. Check valve to ensure proper installation and operation
	2. Pump running too slow	2. Check pump to ensure no cloggage
	3. Air leakage into pump suction	3. Check piping system

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**Models 4YED4, 4YED5, 4VMN3, 4VMN5, 4VMN9**

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**LIMITED WARRANTY**

**DAYTON ONE-YEAR LIMITED WARRANTY.** Dayton® Sand Filtration Combo, Model covered in this manual, is warranted by Dayton Electric Mfg. Co. (Dayton) to the original user against defects in workmanship or materials under normal use for one year after date of purchase. Any part which is determined to be defective in material or workmanship and returned to an authorized service location, as Dayton designates, shipping costs prepaid, will be, as the exclusive remedy, repaired or replaced at Dayton's option. For limited warranty claim procedures, see PROMPT DISPOSITION below. This limited warranty gives purchasers specific legal rights which vary from jurisdiction to jurisdiction.

**LIMITATION OF LIABILITY.** To the extent allowable under applicable law, Dayton's liability for consequential and incidental damages is expressly disclaimed. Dayton's liability in all events is limited to and shall not exceed the purchase price paid.

**WARRANTY DISCLAIMER.** Dayton has made a diligent effort to provide product information and illustrate the products in this literature accurately; however, such information and illustrations are for the sole purpose of identification, and do not express or imply a warranty that the products are MERCHANTABLE, or FIT FOR A PARTICULAR PURPOSE, or that the products will necessarily conform to the illustrations or descriptions. Except as provided below, no warranty or affirmation of fact, expressed or implied, other than as stated in the "LIMITED WARRANTY" above is made or authorized by Dayton.

**PRODUCT SUITABILITY.** Many jurisdictions have codes and regulations governing sales, construction, installation, and/or use of products for certain purposes, which may vary from those in neighboring areas. While Dayton attempts to assure that its products comply with such codes, it cannot guarantee compliance, and cannot be responsible for how the product is installed or used. Before purchase and use of a product, review the product applications, and all applicable national and local codes and regulations, and be sure that the product, installation, and use will comply with them.

Certain aspects of disclaimers are not applicable to consumer products; e.g., (a) some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you; (b) also, some jurisdictions do not allow a limitation on how long an implied warranty lasts, consequently the above limitation may not apply to you; and (c) by law, during the period of this Limited Warranty, any implied warranties of implied merchantability or fitness for a particular purpose applicable to consumer products purchased by consumers, may not be excluded or otherwise disclaimed.

**PROMPT DISPOSITION.** Dayton will make a good faith effort for prompt correction or other adjustment with respect to any product which proves to be defective within limited warranty. For any product believed to be defective within limited warranty, first write or call dealer from whom the product was purchased. Dealer will give additional directions. If unable to resolve satisfactorily, write to Dayton at address below, giving dealer's name, address, date, and number of dealer's invoice, and describing the nature of the defect. Title and risk of loss pass to buyer on delivery to common carrier. If product was damaged in transit to you, file claim with carrier.

**Manufactured for Dayton Electric Mfg. Co., 5959 W. Howard St., Niles, Illinois 60714 U.S.A.**

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# For Repair Parts, call 1-800-323-0620

24 hours a day - 365 days a year

Please provide following information:

- Model number
- Serial number (if any)
- Part description and number as shown in parts list

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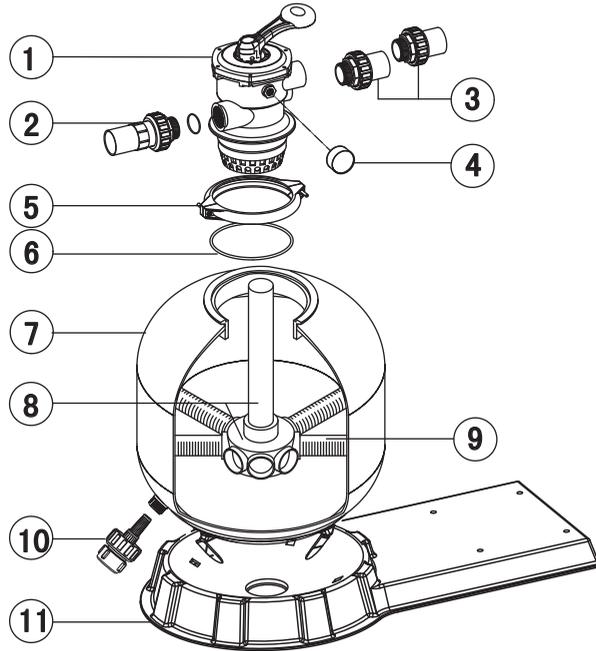


Figure 2 – Repair Parts Illustration for Sand Filter

## Repair Parts list for Sand Filter

Reference Number	Description	4YED4	4YED5	Part Number 4VMN3	4VMN5	4VMN9	Quantity
1	1.5" top mount valve	PP88280105G	PP88280105G	PP88280105G	PP88280105G	PP88280105G	1
2	1.5" union with sight glass with o ring	PP89280101G	PP89280101G	PP89280101G	PP89280101G	PP89280101G	1
3	1.5" union set (2 pieces) with o-ring	PP89280102G	PP89280102G	PP89280102G	PP89280102G	PP89280102G	2
4	plastic pressure gauge with o-ring	PP06021013G	PP06021013G	PP06021013G	PP06021013G	PP06021013G	1
*	connector for pressure gauge/stopper	PP01111048G	PP01111048G	PP01111048G	PP01111048G	PP01111048G	1
*	M6*50 screws with nut	PP89010119G	PP89010119G	PP89010119G	PP89010119G	PP89010119G	2
5	clamp lock	PP01271010G	PP01271010G	PP01271010G	PP01271010G	PP01271010G	2
6	o-ring for filter neck	PP02011134G	PP02011134G	PP02011134G	PP02011134G	PP02011134G	1
7	Filter Tank	PP01331008G	PP01331008G	*	*	*	1
7A	Filter Tank	*	*	PP01331010G	PP01331010G	PP01331010G	1
8	lateral assembly with center pipe	PP89011605G	PP89011605G	*	*	*	1
8A	lateral assembly with center pipe	*	*	PP89011606G	PP89011606G	PP89011606G	1
9	laterals (126mm)	PP01172008G	PP01172008G	PP01172008G	PP01172008G	PP01172008G	8
10	water drain set	PP89011601G	PP89011601G	PP89011601G	PP89011601G	PP89011601G	1
11	Combo base	PP01111053G	PP01111053G	PP01111053G	PP01111053G	PP01111053G	1

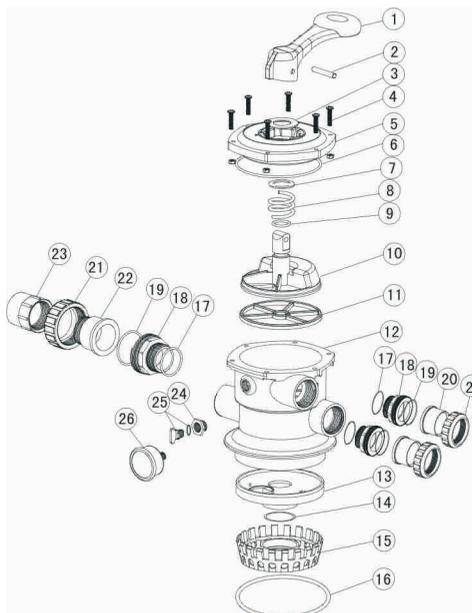
(\*)Part Not Shown on Exploded View

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Please provide following information:

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- Part description and number as shown in parts list



**Figure 3 – Repair Parts Illustration for Valve**

### Repair Parts List for Valve

Reference Number	Description	4YED4	4YED5	4VMN3	Part Number 4VMN5	4VMN9	Quantity
1	handle (Big)	PP01013003G	PP01013003G	PP01013003G	PP01013003G	PP01013003G	1
2	pin for handle	PP03018008G	PP03018008G	PP03018008G	PP03018008G	PP03018008G	1
3	washer for handle	PP01181001G	PP01181001G	PP01181001G	PP01181001G	PP01181001G	1
4	M6x30 screw with nut for standard Lid	PP89280107G	PP89280107G	PP89280107G	PP89280107G	PP89280107G	6
5	1.5" top mount valve standard lid (Black)	PP01013004G	PP01013004G	PP01013004G	PP01013004G	PP01013004G	1
6	o-ring for 1.5" valve lid	PP02011002G	PP02011002G	PP02011002G	PP02011002G	PP02011002G	1
7	washer for spring	PP01181002G	PP01181002G	PP01181002G	PP01181002G	PP01181002G	1
8	spring for 1.5" top mount valve	PP03014001G	PP03014001G	PP03014001G	PP03014001G	PP03014001G	1
9	o-ring for 1.5" valve rotor	PP02011022G	PP02011022G	PP02011022G	PP02011022G	PP02011022G	2
10	1.5" valve rotor	PP01021001G	PP01021001G	PP01021001G	PP01021001G	PP01021001G	1
11	spider gasket	PP02311002G	PP02311002G	PP02311002G	PP02311002G	PP02311002G	1
12	1.5" top mount valve bottom body clamp (Back)	PP01013007G	PP01013007G	PP01013007G	PP01013007G	PP01013007G	1
13	1.5" diffuser	PP01013011G	PP01013011G	PP01013011G	PP01013011G	PP01013011G	1
14	o-ring for diffuser	PP02011001G	PP02011001G	PP02011001G	PP02011001G	PP02011001G	1
15	1.5" top mount valve over drain diffuser	PP01013012G	PP01013012G	PP01013012G	PP01013012G	PP01013012G	1
16	o-ring	PP02011134G	PP02011134G	PP02011134G	PP02011134G	PP02011134G	1
17	o-ring for 1.5" connector	PP02011151G	PP02011151G	PP02011151G	PP02011151G	PP02011151G	3
18	1.5" connector (Black)	PP01013015G	PP01013015G	PP01013015G	PP01013015G	PP01013015G	3
19	o-ring for 1.5" union	PP02011003G	PP02011003G	PP02011003G	PP02011003G	PP02011003G	3
20	1.5" union (A/E)	PP01171153G	PP01171153G	PP01171153G	PP01171153G	PP01171153G	2
21	1.5" union nut (Black)	PP01013017G	PP01013017G	PP01013017G	PP01013017G	PP01013017G	3
22	1.5" union with sight glass (short)	PP01041002G	PP01041002G	PP01041002G	PP01041002G	PP01041002G	1
23	1.5" union with sight glass holder	PP01172026G	PP01172026G	PP01172026G	PP01172026G	PP01172026G	1
24	connector for pressure gauge/stopper	PP01111048G	PP01111048G	PP01111048G	PP01111048G	PP01111048G	1
25	drain plug with o-ring	PP89021307G	PP89021307G	PP89021307G	PP89021307G	PP89021307G	1
26	plastic pressure gauge with o-ring	PP06021013G	PP06021013G	PP06021013G	PP06021013G	PP06021013G	1

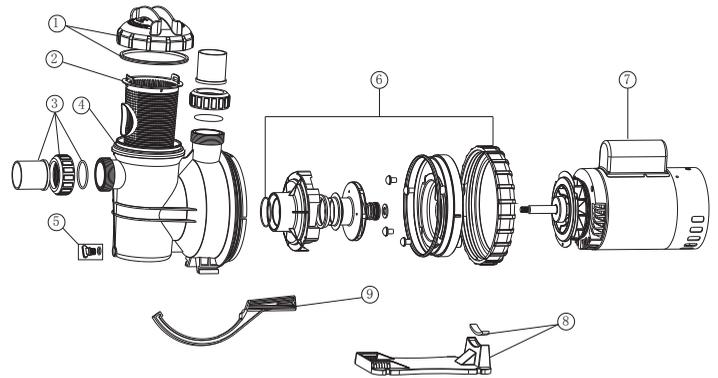
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**SCUS PUMP**  
For 4VMN3, 4VMN5, 4VMN9

**Figure 2 - Repair Parts Illustration for Pump Under Development**  
**Repair Parts List for Pump Under Development**

Reference Number	Description	Part Number			Quantity		
		4YED4	4YED5	4VMN3		4VMN5	4VMN9
1	Transparent Lid with Oring			PP01041023G	PP01041023G	PP01041023G	1
	O-Ring for lid			PP02011077G	PP02011077G	PP02011077G	1
2	Basket with Handle			PP01111076G	PP01111076G	PP01111076G	1
3	1.5" union set with O-ring			PP89280102G	PP89280102G	PP89280102G	2
4	SCUS Pump Body			PP01111006G	PP01111006G	PP01111006G	1
5	Drain Plug With O-ring			PP89021307G	PP89021307G	PP89021307G	1
6	Impeller and Diffuser Section with Ringlock			TBA	TBA	TBA	1
	Impeller and Diffuser Section with Ringlock			TBA	TBA	TBA	1
	Impeller and Diffuser Section with Ringlock			TBA	TBA	TBA	1
7	Motor SCUS100(110V/60HZ)			PP89021903G			1
	Motor SCUS150(110V/60HZ)				PP89021904G		1
	Motor SCUS200(110V/60HZ)					PP89021905G	1
8	SCUS Pumps Base			PP01111007G	PP01111007G	PP01111007G	1
9	Opening Key			PP01021022G	PP01021022G	PP01021022G	1

