Operation and Maintenance Manual

PNEUMATIC DIAPHRAGM PUMP

PD160

This manual contains important information on warnings and cautions. Read the manual thoroughly before starting to operate the pump, and follow the instructions.
Always keep the manual handy until such time as the pump is no longer being used. If your manual is lost or worn badly, do not hesitate to contact our agency which is closest to you, or the Asahi Sunac Corporation, directly, and ask us to send you a new one.

18th Edition: November 18, 2025

Introduction

Thank you for purchasing our product pneumatic diaphragm pump < PD160>.

Please be sure to read this operation manual carefully before using this product so that you can always use it under the optimum conditions.
In particular, please fully understand the items in the specifications and use them according to the correct usage.

If you have any questions, please contact us by clearly stating the "product number" and "serial number" and contacting us on the back cover.

Please keep this operation manual in a safe place where you can easily refer to it.

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1 For Your Safety

Please understand the contents of this instruction manual and be sure to follow the handling method. If you use it without following this instruction manual, **you may injure your body or damage your equipment and fire.**

The following safety precautions should be considered as minimum basic safety measures when using our products.

●Precautions are displayed in the following two stages.

WARNING	Hazards that can result in death or serious injury.
CAUTION	Danger that may result in minor or moderate injury or physical damage only.

●Other important points are indicated as follows:

NOTE	Observations to ensure the equipment's performance and functions are fully operational.

In addition, please observe all national and local laws and regulations related to fire, electricity, and safety, as well as the rules and regulations of your own company or business division.

≪Range of use suitable for the product≫

This product is a pump that is installed in a coating environment with an exhaust system and is used to paint and materials for application and coating.

《Warning and precautions for safe use》

⚠ WARNING

Fire and explosion

Preventing fire and explosion in coating shop

- **Do not use halogenated hydrocarbon solvents.**
  The aluminum alloy contained in this product's components may undergo a chemical reaction and explode.
- **Do not use this product outside its specifications.**
  Using it out of specification range may result in a fire hazard.
- **Provide adequate ventilation with ventilation equipment.**
  Volatilized organic solvents and other substances may remain and ignite, creating a risk of fire.
- **Clean the coating room and exhaust system (ducts and fans) regularly.**
  If the accumulated powder simply peels off, a spark may occur, which could cause a dust explosion.
  In the unlikely event of a fire, paint residue etc. will make it easier for the fire to spread and result in greater damage.

Prevent fire and electric shock caused by faulty earthing

- **All conductive objects in the coating booth (paint containers, peripheral equipment, etc.) must be grounded with an earth wire.**
  In an atmosphere ionized by high voltage, poorly grounded conductors can become charged, creating a risk of fire or electric shock due to spark discharge.
  The earth should be **Class D grounding or higher** (ground resistance 100 Ω or less).
- **Always keep the workpiece earthed.**
  Risk of fire or electric shock due to spark discharge from charged workpieces.
- **The paint container must be grounded with an earth wire.**
  The paint path can cause the paint container to become charged, a risk of fire or electric shock.
- **Be sure to periodically remove any paint that has stuck to the hanger.**
  If paint adheres to the contact part between the hanger and the object, there is a risk of fire or electric shock due to poor earthing.
  The ground resistance value should be 1kΩ or less for metal (1MΩ or less for resin) (measurement voltage should be 500V or more).
- **Do not place any items in the coating booth that are not necessary for coating.**
  Static electricity can cause spark discharge, which can result in fire or electric shock.
- **Paint operator must take precautions to prevent static electricity.**
  Static electricity builds up on the human body, causing sparks to discharge, which may result in fire or electric shock.

《Warning and precautions for safe use》

⚠ WARNING

Fire and explosion

Prevent fires caused by ignition of paints and solvents

- **Do not bring any spark-producing devices, matches, lighters, etc.**
  Risk of explosion or fire due to ignition of flammable materials.

Equipment misuse

Preventing accidents caused by poor maintenance

- **Any abnormal noises or vibrations, immediately stop operation.**
  Product damage may result in a fire hazard.
- **Do not operate if any parts are damaged or missing.**
  Product damage may result in a fire hazard.
- **Do not use the equipment with the safety valve removed.**
  Malfunction or equipment damage may cause injury to the human body.

Human protection

Protection from solvents, air and paint pressure

- **Do not spray paint towards person**
  Harmful substances may cause serious injury, including inflammation and poisoning.
  Pressurized paint can cause personal injury.
- **Wear protective glasses, a protective mask, and protective gloves[*1] when handling paint.**
  Harmful substances may cause serious injury, such as inflammation or poisoning.
  Carefully read the safety data sheet (SDS[*2]) of the paint you are using and take appropriate exposure prevention and protective measures.
  *1 When using protective gloves for skin absorption protection or to prevent dirt, it is necessary to prevent static electricity from building up on the human body. Be sure to ground it properly. (Recommended protective gloves are those specified in JIS T8118, or earth bands, etc.)
  *2 SDS：Safety Data Sheet
- **Clean the coating room and exhaust device (ducts and fans) regularly.**
  If the exhaust device does not function properly, harmful substances may cause serious injury, including inflammation and poisoning.

《Warning and precautions for safe use》

⚠ WARNING

Human protection

Protection from solvents, air and paint pressure

- **Always use below the maximum output pressure.**
  If paint or materials are sprayed out of the equipment and enter the body through the eyes or mouth, there is a risk of serious injury such as inflammation or poisoning due to the harmful substances contained in the paint or materials.
- **Do not use paints or materials that are not intended for this product.**
  Deterioration due to heating, chemical reaction, or container alteration may cause the equipment to burst, and there is a risk of injury to the human body from fragments, pressurized paint or materials.
  Harmful substances can cause serious injury such as inflammation and poisoning.
  Deterioration due to heating, chemical reaction, or container alteration may cause the equipment to burst, and there is a risk of injury to the human body from fragments, pressurized paint or materials.
  Harmful substances can cause serious injury such as inflammation and poisoning.
- **Do not use damaged hoses.**
  If the hose bursts, paint or materials may spray out and enter the body through the eyes or mouth, there is a risk of serious injury such as inflammation or poisoning due to the harmful substances contained in the paint or materials.
- **Always release material and air pressure before cleaning, disassembly or maintenance work.**
  Do not remove or disassemble the nozzle or hose without first relieving the pressure.
  If paint, materials or cleaning fluids spray out and enter the body through the eyes or mouth, there is a risk of serious injury such as inflammation or poisoning due to the harmful substances contained in the paint or materials.
- **After work, make sure the paint and materials are not pressurized.**
  Pressurized paints and materials can cause injury to the human body.
  Harmful substances can cause serious injury such as inflammation and poisoning.

Protection from moving parts

- **When interrupting or ending work and before cleaning, disassembly and maintenance, stop the supply air to the pump. Be sure to release the pressure.**
  The pump may activate unexpectedly, posing a risk of injury if fingers become trapped in moving parts (such as the piston rod).
  There is a risk of serious injury, such as inflammation or poisoning symptoms, due to hazardous substances.
- **Do not leave the site while the pump is operating.**
  If someone is unaware that the pump is running, there is a risk of their fingers getting caught in the moving parts (piston rod, etc.) and sustaining personal injury.

《The Need for Treatment》

If you are struck by paint or material, seek medical attention from a specialist.
In this case, you will need to tell your doctor exactly what type of paint or material you used.

《Warning and precautions for safe use》

⚠ CAUTION

- **Do not use this product outside its specifications.**
  Using it out of specification range may result damage to the product.

- **Hoses should be hung from the ceiling or side walls and not dragged across the floor.**
  It may cause damage such as scratches.
  When using conductive paint, be sure to suspend the paint hose from an insulating material such as a rubber tube.

- **Check frequently for paint leaks, air leaks, and loose screw.**

●**A fire extinguisher should always be kept near the work area.**
In case of a fire, make sure to have equipment that has been regularly inspected installed at all times.

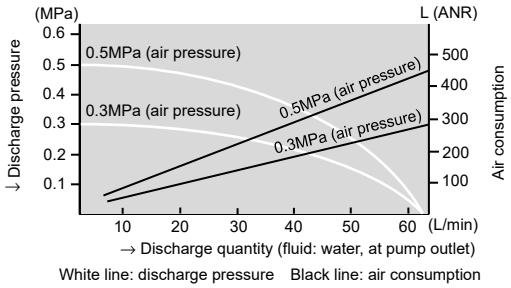
●**When disposing of this product, please dispose of it in accordance with the laws of your country.**

2 Equipment specifications and components

Model	PD160
Pressure ratio	1:1
Fluid displacement	0.3L/cycle
Maximum output	60L/min (Liquid: water, per pump)
Normal flow rate ※	9L/min
Maximum air pressure	0.7MPa
Maximum paint outlet pressure	0.7MPa
Maximum fluid temperature	60°C
Noise	84dB/A (at 0.7MPa)
Air intake diameter	G1/2 (PF1/2)
Paint outlet diameter	Rc3/4 (PT3/4)
Suction hose I.D.	ϕ25.4mm
Weight	13kg
Dimensions	245mm (H) x 205mm (W) x 430mm (L) (Pump body)

※ If you operate beyond the normal flow rate, the consumable parts may need replacement early. In addition, it may cause spray defect and abnormal parts wearing due to the cavitations depending on the kinds of paints.

● **Pump output diagram** (Pump only)



White line: discharge pressure Black line: air consumption

● **Standard component parts**

Pump body	1 set
Air regulator	1 set
Suction hose	1 set
Stand	1 set

● **Standard components and names of parts**

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3 Before You Start: General Precautions

①This diaphragm pump uses compressed air as a power source.
The compressor should have a capacity no smaller than 3.75kW (5PS)

②Power source air should be free of water, impurities, such as dust which need to have been removed by means of air dryer or an air filter, etc.

③When using oil-free air, in which oil has been removed by an oil-mist separator or a mist filter, be sure to install a lubricator (oiler) in the air supply line for continuous lubrication.
※Use turbine oil recommended by the lubricator manufacturer.

④Pressure drop may occur when a compressor is installed in a place far removed from where air is used. Arrange an optimum layout in, taking into accounts the compressor capacity and the place in which it is to be installed.

NOTE

For proper operation, the equipment requires a compressed air pressure of no less than 0.3MPa.

⑤The construction of this diaphragm pump is simple and not many parts are used. However, if you find that the pump is not functioning in the way it should, or displaying symptoms of failure, make an adjustment or repair in accordance with “Tear Down Inspection and Parts Replacement (pages 10 – 12)” and “Troubleshooting (Page 13).”
Having done all this, if you find that the problem is still unresolved, do not do anything further on your own initiative, but rather call immediately our local agency, or Asahi Sunac directly for complete repair at our factory.

⑥For a paint that deposits quickly, stir well before use, or use a stirrer.

⑦Once a painting operation has been completed, you can either leave paint in the pump or remove it completely from the pump by means of cleaning. If you clean it, clean it completely. If you don’t, just don’t do anything. Leave it alone. In any case, don’t clean the pump in a half-baked fashion. That is the worst thing you could do to the pump: the residual paint in the pump, left over from cleaning, would eventually harden, hampering suction capability and leading to a deterioration in painting performance.

⑧Because of the way that the pump is constructed, no paint containing bone materials in it should be used.

⑨Please note that, when using a paint with highly abrasive grains, such as a zinc-rich paint, there may be occasions where the life of ball, seat and diaphragm gets shorter than otherwise.

⑩A snap-action type pilot valve is used for this pump. For this reason, when the pump stops at a stroke end (the right end or the left end), the pilot valve air will be continuously discharged. This does not mean that there is a failure, it is perfectly normal.

4 Operation: Procedures and Precautions

① Unpacking, mounting and hooking up

The Diaphragm Pump Model PD160 is for operation, and has been thoroughly inspected at the Asahi Sunac Plant. The only things you have to do is set up a stand and to connect a hose and gun, and you are all set to go. Having said that, when you receive shipment from us, you should inspect the equipment and parts immediately following unpacking, for they may have been subjected to vibration in transit. Check to see if there has been any damage to the equipment or parts, if any portions have become loose, or if any parts are missing. If you discover any damage or that parts are messing, please get in touch with our agency, or with Asahi Sunac direct.

(1) Upon unpacking, check the equipment and parts against the packing slip.
(2) Connect a pipe or hose to the paint outlet joint.
(3) Turn the air regulator handle counterclockwise, loosening it to the maximum extent possible.

② Method of operation

Clean the inside of the equipment with solvent (cleansing thinner).
Operate each function to check that if everything is OK.

⚠ WARNING

Check the paint passage for leaks. If you find any leak, turn the air regulator handle counterclockwise immediately, shutting off the air pressure. Then re-tighten the joint at which you have noticed the leak.

⚠ CAUTION

When you use solvent (thinner), turn on the ventilator.

If you find foreign matters in solvent, remove it. Foreign matters inside the pump will cause clogging and painting failure. Please follow the following procedure to prepare for operations.

(1) Pour around 10 liters of solvent into a paint can (container). And put the suction member into it.
(2) Slowly turn the air regulator handle clockwise (open). As compressed air starts coming in, the pump will be set in motion.

CAUTION

In order to prevent an air regulator from getting damage , unlock the handle of air regulator before operate.

⚠ CAUTION

Set the air regulator at about 0.1MPa.

(3) Point the spray gun into the paint can and pull the trigger. As solvent runs through the pump and paint hose, it will take any air with it along the way, making them air-free inside (air will be discharged as bubbles). Once cleaning has been completed, pull off the suction member. Open the ball cock, letting the pump run idly, removing all remaining solvent from the pipe and hose end. Close the air regulator by turning the handle counterclockwise. The above constitutes the setting up of equipment for a painting operation.

③ Operating procedure

(1) Pour paint into a paint container.
(2) Slowly open the air regulator by turning the handle clockwise, setting the pump in motion.

NOTE

Set the air regulator at about 0.1MPa.

(3) Set the air regulator to an operating pressure.

NOTE

Recommended pressure setting for normal operations: Air regulator at 0.3MPa or more.

Also set the low pressure regulator to an operating pressure -- by turning the handle clockwise until the regulator opens to the extent that is just right for the operating pressure.

⚠ CAUTION

- **Air purging or pressured paint feeding from the suction side of PD160, the paint may enter the air chamber and the pump may stop.**
  When performing air purging or pressured paint from the suction side, set the pressure to 0.02MPa or less.
- **When paint supply runs out in the middle of operation, the system sucks air in place of paint and paint spraying operation will be disrupted with the pump running idly.**
  After lowering the air pressure of the air regulator and replenishing the paint, bleed the air from the pipes and hoses, and restore the pressure setting before starting work.

④ Interrupting operation

To interrupt operation for a while,
(1) Close the air regulator by turning the handle (counterclockwise) and stop the pump.
(2) Make sure that air pressure is removed from the pipe and hose end.

⚠ WARNING

To prevent backflow of paint, relieve pressure from the terminals of pipes and hoses when stopping work.
When the system does not have means to relieve pressure, install a check-valve so that reversal flow of paint may be prevented.

⚠ CAUTION

When you start a diaphragm pump for the first time in a day, or when you shut it down at the end of the day's work, use the air regulator – open for starting up and close for shutting it down. Never start the compressor with the diaphragm compressor regulator valve open: should you do so, the air valve might fail, causing the pump to fail.

⑤ Post-operation procedure

Having interrupted operation following the procedure as per, there are two kinds of post-operation procedures, (1) and (2), to choose from depending on the shutdown period and type of paint used.

⚠ WARNING

To prevent backflow of paint, relieve pressure from the end of the pipe or hose when finishing the work.
When the system does not have means to relieve pressure, install a check-valve so that reversal flow of paint may be prevented.

(1) Leave the system filled with paint.
Because no air is trapped in the paint passage, oil is kept in the system as if it were being kept in a paint can for storage, thus preserving it free from solidification. However, if the kind of paint you are using is one that deposits quickly, such as a two-liquid paint, do not keep it in the system too long. You would be better off following Procedure (2).

(2) Keep the system paint-free.
Flush the system with cleansing solvent, thoroughly: paint, if left out, will deposit and solidify with time, no matter how small the amount is. Keep the system filled with cleansing solvent until you use the system again.

⚠ CAUTION

However, when you shut down the system for a long period of time, after flushing with water, you should also flush the system with an organic solvent. When the period of shut down is over, fill the system again with organic solvent.

5 Maintenance and Periodic Inspections

① Maintenance

(1) Daily maintenance operations
Cleaning of suction filter

(2) 100-hour maintenance operations
Cleaning of pump

(3) 1000-hour maintenance operations
Inspection of diaphragm, ball and valve seat

② Perishable parts replacement frequency

(1) Wet parts
Replacement frequency based on typical discharge rate at 4.5 liter per minute
(Valve shifting clicking sound every 2 seconds)

The numbers of parts are taken from the lists of parts in this manual. Unit: hour

Index number	Part No.	Part name	Standard paint	Abrasive paint (ceramics, zinc, etc.)
15-9	3720-009	Diaphragm	3000 - 5000	1000 ～ 2000
15-20	3720-020	Seat	3000 - 5000	500 ～1000
15-17	3720-017	Seat	5000 - 10000	1000～2000
15-21	3720-021	Ball (discharge)	2000 - 4000	500～1000
15-21	3720-021	Ball (suction)	5000 - 10000	1000～2000

When changing valve seats, change O-rings (101-6024, 101-6026, 101-6028), as well.

(2) Air valve replacement parts

The numbers of parts are taken from the lists of parts in this manual. Unit: hour

Index number	Part No.	Part name	Unlubricated	Lubricated
15-14	3720-014	Slider	10000	10000
15-16	3720-016	Bush	10000	10000
15-26	314-0015	Air valve	3000	10000
15-28	101-6014	O-ring	3000	10000

The maintenance schedule described above is based on normal operating conditions. Depending on the frequency of color change and pressure setting, the inspection and frequency of replacement of parts may vary: use your own discretion for appropriate frequency.
Always keep consumables as spare parts.

6 Tear Down Inspection and Replacement of Parts

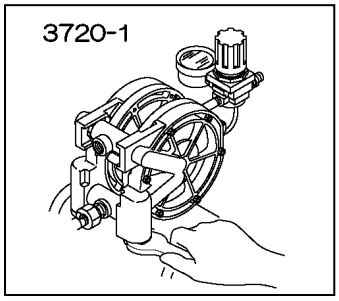
Inspect periodically diaphragms, balls, and valve seats, etc.

When you discover excessive wear or fatigue, replace the parts in accordance with the procedures shown below. Before you get down to inspection or replacement of parts, clean the pump thoroughly. And then take the parts apart.

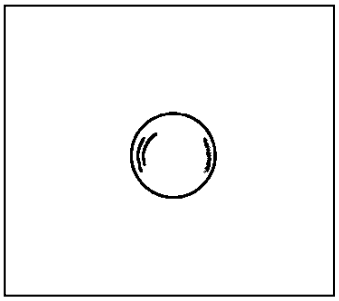
⚠ CAUTION

Tear down inspection and replacement of parts should be carried out only by those who are well acquainted with the ways in which they should be conducted, and strictly follow the procedures designated.

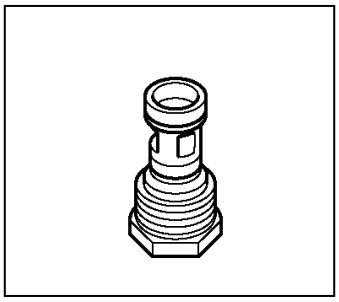
① Inspection and replacement: Suction valve, ball



①Remove the valve seat with a 41mm spanner.
There is one for each side, Left side and Right side.

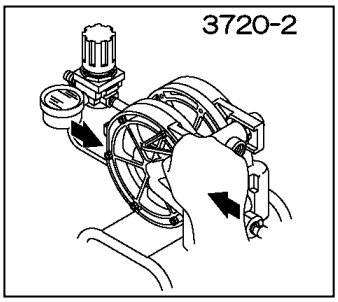


②Check the ball for deposition of foreign matter (paint, etc.), damage, and wear (see if diameter is too small in relation to normal ball diameter, 25.4mm). Replace, as required.

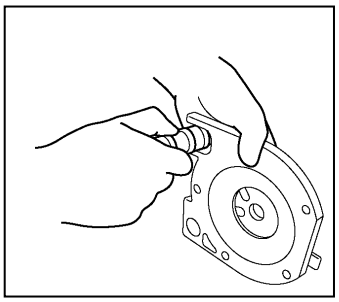


③Check valve seat for deposits (paint, etc.) on paint passage and for damage on seat surface. If there is a deposit, clean. If there is minor damage, polish with #400 water-proof emery paper (Polish uniformly all round). If damage is too extensive to repair, replace.

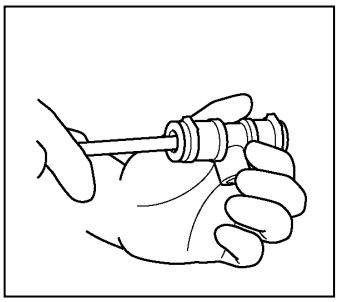
② Inspection and replacement: Discharge valve, ball



①Detach the flanges from the pump body by removing 10 flange mounting screws on both right and left sides using a 6mm hexagonal wrench. When they don't come off easily, insert a flat-tipped screwdriver into the notches shown by arrows and remove.



②Remove manifold from flange.

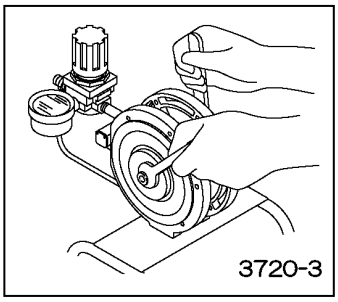


③Push ball from one end with pencil or stick. Seat at the other end will come off with the ball. Put the ball in from the end where seat just came off and push it with a pencil or stick. Seat at opposite end will come off.

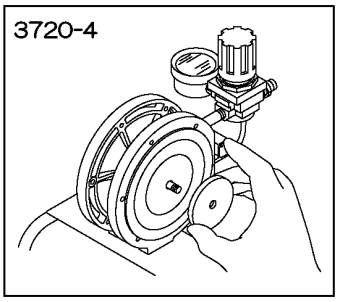
③ Inspection and replacement: Diaphragm

Remove flanges in accordance with the procedures per ① and ② for check valve inspection and replacement. Now, you are ready for diaphragm inspection. Check it for damage, cracks, etc.

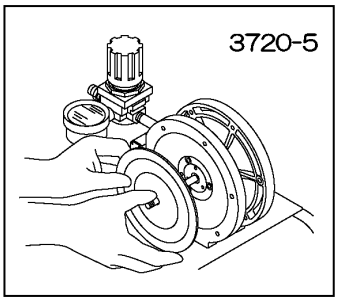
Removing the Diaphragm



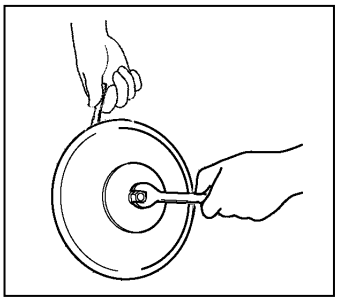
①Using two 13mm spanners on M8 nuts on both sides, remove one of the nuts.



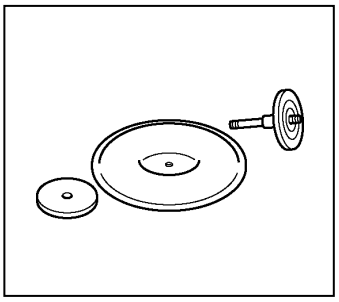
②Remove the disk, the diaphragm, and then the other disk from the side from which you have removed the nut.



③Remove the diaphragm on the opposite side together with the shaft.

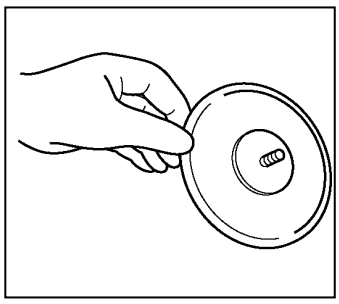


④Put a spanner over the two opposing flat faces of the shaft nut and turn it to remove the nut.

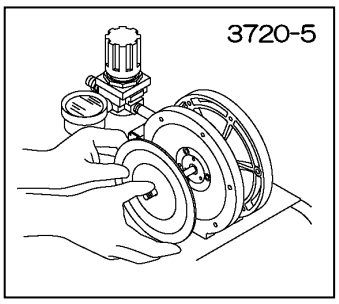


⑤Remove the disk, then the diaphragm, and then the other disk.

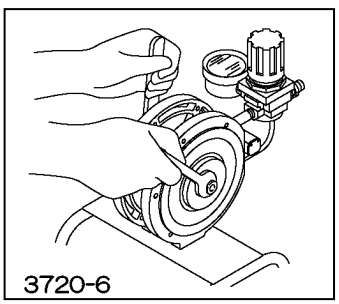
Attaching Diaphragm



⑥Mount parts onto the shaft in the following order: Disk, O-ring, diaphragm, other O-ring, then disk. After that, mount the spring washer and M8 nut, which for the time being should then be tightened lightly.

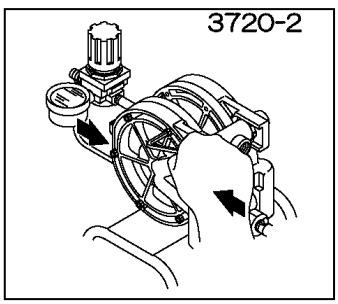


⑦Put the diaphragm as assembled on the shaft onto one side of the pump body. Then, from the other side, install parts in the following order: disk, O-ring, diaphragm, other O-ring, disk spring washer, and M8 nut, which for the time being should then be tightened lightly. When installing the diaphragm, make sure that the diaphragm sphere is facing the outer side.



⑧Tighten M8 nuts with two spanners. (Tightening torque: 1000N・cm)

If tightening torque is not proper, trouble may result, such as a fluid flowing into the air passage.



⑨To wrap up re-assembling, mount both (Left side and Right side) flanges. (Tightening torque: 3000N・cm)

If tightening torque is not proper, fluid may leak from the flange portion.

④ Inspection and replacement: Pilot valve (slider)

※ Conduct an inspection only when the pump has failed.

(1) When the pump has failed, first of all, check the air valve (15-26) to see if it has stopped.
Re-open the air regulator by moving air valve control from side to side and supply compressed air.
When the slide control is too heavy, or when there is leak from mufflers (15-6) all the time, replace.

(2) When there is a continuous air leak from the muffler (15-7) on either side of the manifold (15-6) (on which the air valve is mounted), or when the air valve (15.-26) frequently fails, wear of pilot valve may be suspected. Inspect and repair in accordance with the following procedures:

1) Shut off supply of the air to the air intake.
2) Remove the diaphragm in accordance with the diaphragm inspection and replacement procedure (page 10).
3) Remove the retainer (15-24), and replace the O-ring (15-28) within housing.
4) Remove the retainer (15-14), and pull out of the shaft (15-10).
5) Replace the slider (15-14) located in the middle of the shaft (15-10) that has been pulled out. Apply grease to the shaft (15-10), the slider (15-14), and the collar (15-11). And then, put them back on.

＊ A set of two numbers connected with a hyphen in parentheses ( ) represents the page number on which the part is shown (the number before the hyphen), as well as the index number of the same part (the number after the hyphen) appearing on that page.

7 Troubleshooting

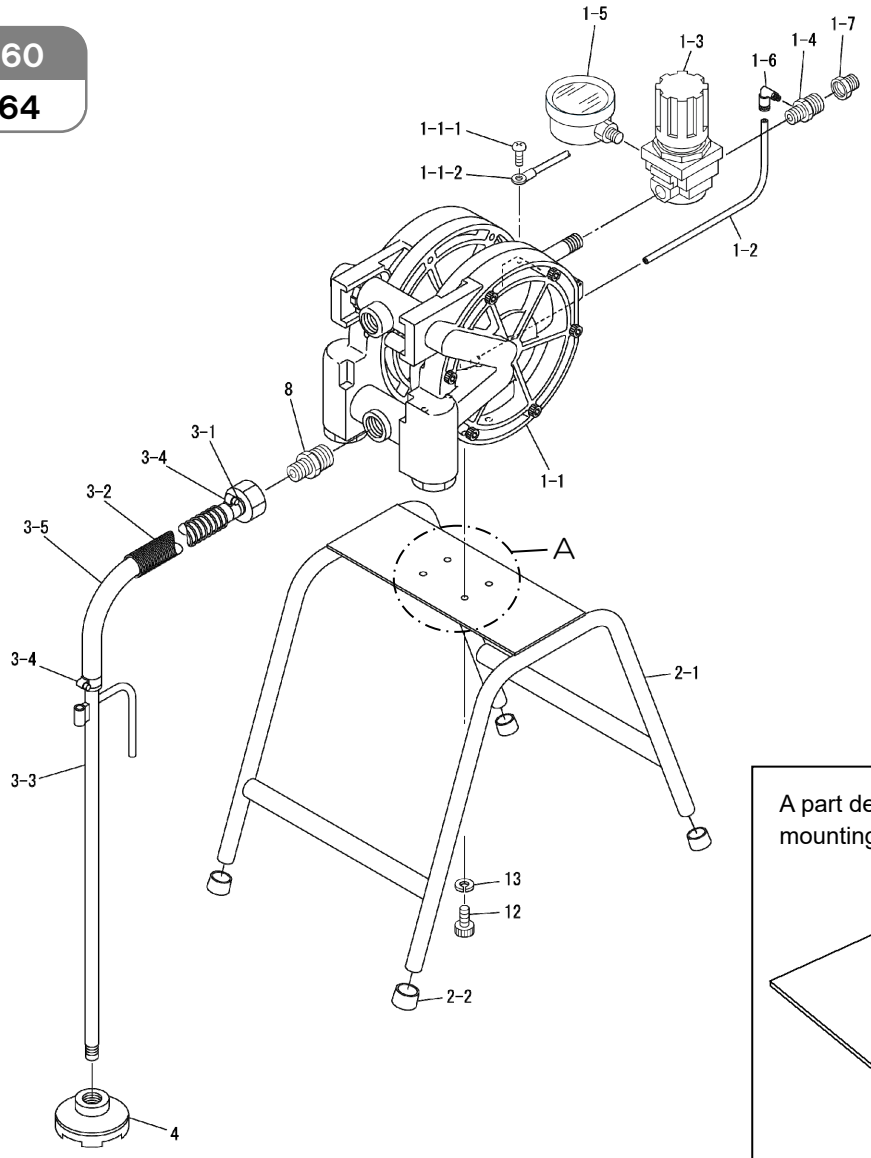
A set of two numbers connected with a hyphen in parentheses ( ) represents the page number on which the part is shown (the number before the hyphen) as well as the index number of the same part (the number after the hyphen) appearing on that page.

Symptom	Probable cause	Remedy
1. No paint fluid pressure	①Failure to open air regulator (14-1-3)	①Open completely (clockwise)
	②Defective pressure gauge (14-1-5)	②Replace it with a new one
	③Hardened paint on ball (15-21) in pump due to insufficient post-operation cleaning	③Thoroughly clean with thinner. If it does not work, take pump apart and clean.
	④Air valve (15-26) failure	④Move air valve slide control from side to side. If it does not work after repeated attempts, replace.
2. No paint discharge, even when pump is still operating	①Clogged suction filter (14-4)	①Clean suction filter screen (14-3).
	②Ball (15-21) stuck to seat (15-17), and will not detach.	②Clean seat (15-17).
3. Paint discharge tapering off	①Clogged suction filter (14-4)	①Clean suction filter screen (16-3).
	②Clogged paint passage	②Take it apart and clean
4. Pump does not run at uniform rate	①Clogged suction filter (14-4)	①Clean suction filter screen (16-3).
	②Defective slider (15-14) seat, with continuous air leak from muffler (15-23)	②Take slider apart and clean. If you find damage on slider (15-14), replace.
5. Pump failing to come to a stop after spraying has stopped	①Empty paint can (container)	①Replenish paint
	②Defective seat (15-17)	②Clean or replace seat or valve seat.
6. Air leak from muffler (16-6)	①Defective slider (15-14)	①Take slider (15-14) apart and clean. If you find damage or wear on sealed portion (black portion) of slider, replace.
	②Wear of O-ring (15-28) retainer (15-24)	②Replace O-ring.
7. Air gets in from outlet	①Broken diaphragm (15-9)	①Replace diaphragm When there is paint deep inside the air valve, clean the air passage, thoroughly dry, and then replace the air valve (15-26).
	②Hexagonal nuts (15-40) of disks (15-15) that hold diaphragm from sides, loose	②Tighten hexagonal nuts. If there is a paint leak from the exhaust muffler, replace the air valve (15-26).
	③Flange (15-2, 15-3)- mounting hexagonal socket screws (15-36), hex socket bolt(15-37), loose.	③Tighten hexagonal socket screws, hex socket bolt. (Tightening torque: 4000N・cm)

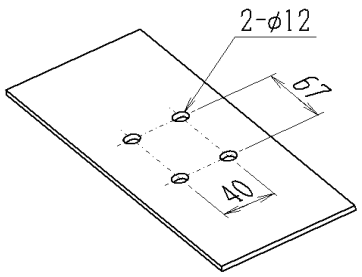
NOTE: Due to continuous improvements and modifications, the configurations and specifications of the equipment specified herein are subject to change without prior notice.

8 Exploded Diagram and Names of Parts

PD160
40364



A part detail
mounting dimension



Diaphragm pump

No.	Part number	Part name	Qty	Remarks
1	40366	Diaphragm pump	1set	
1-1	3720	Diaphragm pump	1set	
1-1-1	68-10410	Cross recessed pan hd screw	1	
1-1-2	40338-024	Grounding wire	1	
1-2	40364-010	Air hose	1	
1-3	301-0036	Air Regulator	1	
1-4	40364-007	Hose Joint	1	
1-5	305-0003	Pressure Gauge	1	
1-6	384-0606	Quick joint(elbow)	1	
1-7	342-0140	Cone nipple	1	
2	205A	Cart	1set	
2-1	205A-001	Frame	1	
2-2	1925-003	Flat round core lead	4	
3	5617	Suction hose	1set	
3-1	5617-001	Cone nipple	1	

No.	Part number	Part name	Qty	Remarks
3-2	8064-006	Spring	1	
3-3	8064-003	Suction pipe	1	
3-4	8063-004	Hose band	2	
3-5	573-0010	Rubber hose	1	
4	0502	Suction Filter	1	
5	Null			
6	Null			
7	Null			
8	247-2808	Hose Joint	1	
9	Null			
10	Null			
11	Null			
12	03-80815	Hex socket hd cap screw	4	
13	41-80800	Spring washer, plated	4	

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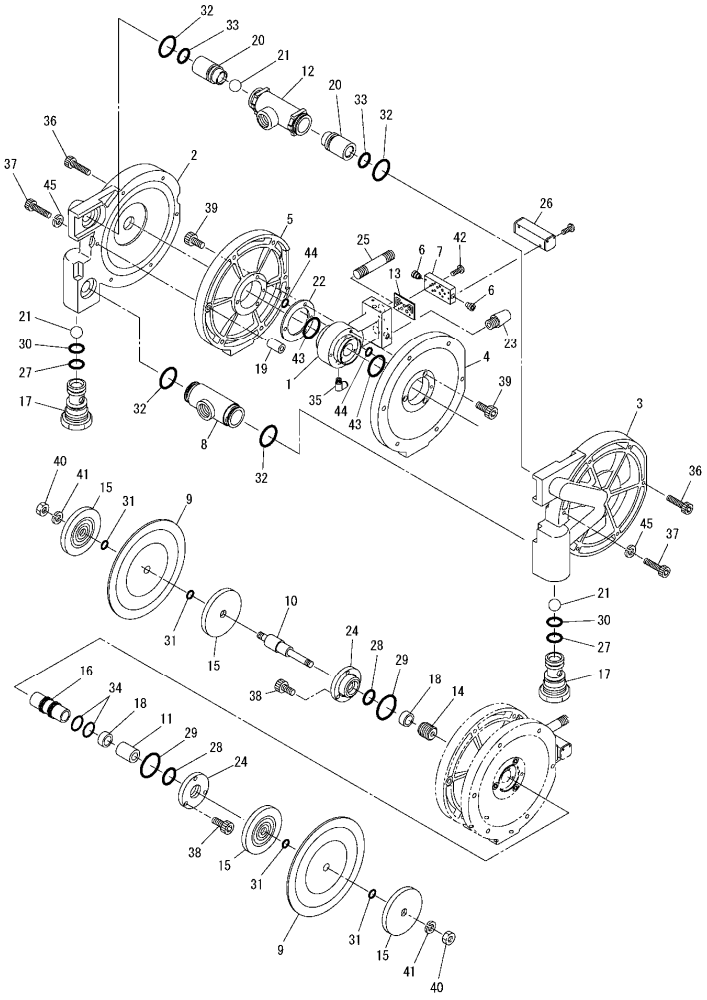
Diaphragm pump
PD160<3720>

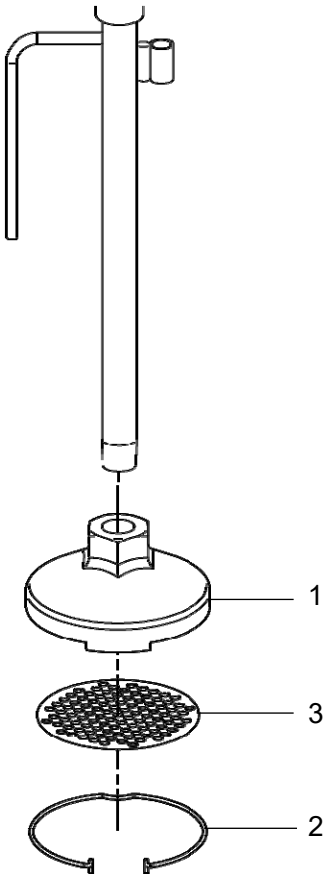


Diaphragm pump PD160

No.	Part number	Part name	Qty	Remarks
1	3720-001	Body	1	
2	3720-002	Flange	1	
3	3720-003	Flange	1	
4	3720-004	Case	1	
5	3720-005	Case	1	
6	3711-007	Muffler	2	
7	3720-007	Manifold	1	
8	3720-008	Manifold	1	
9	3720-009	Diaphragm	2	
10	3720-010	Shaft	1	
11	3720-011	Collar	1	
12	3720-012	Manifold	1	
13	3720-013	Seat	1	
14	3720-014	Slider	1	
15	3720-015	Disk	4	
16	3720-016	Bush	1	
17	3720-017	Seat	2	
18	3720-018	Dry bearing	2	
19	3720-019	Spacer	1	
20	3720-020	Seat	2	
21	3720-021	Ball	3	
22	3720-022	Seat	2	
23	3720-023	Muffler	2	
24	3720-024	Retainer	2	

No.	Part number	Part name	Qty	Remarks
25	3720-025	Pipe	1	
26	314-0015	Air valve	1	
27	101-6028	O-ring	2	
28	101-6014	O-ring	2	
29	130-6025	O-ring	2	
30	101-6026	O-ring	2	
31	101-6008	O-ring	4	
32	101-6034	O-ring	4	
33	101-6024	O-ring	2	
34	130-6022	O-ring	2	
35	384-0601	Quick joint	1	
36	1F-80855	Hex socket head cap screw	10	
37	03-80870	Hex socket bolt	2	
38	03-80408	Hex socket bolt	6	
39	03-80625	Hex socket bolt	6	
40	15-70800	Hex nut	2	
41	41-70800	Spring washer	2	
42	12-10312	Two-point sems screw	4	
43	130-6053	O-ring	2	
44	130-6009	O-ring	2	
45	41-50800	Spring washer	2	
46	5279	Name Plate	1	
47	68-10410	Cross recessed pan hd screw	1	
48	40338-024	Grounding wire	1	

Suction filter
0502



Suction filter SF1406

No.	Part number	Part name	Qty	Remarks
1	0502-001	Filter body	1	
2	0502-002	Snap	1	

No.	Part number	Part name	Qty	Remarks
3	0502-003-04	Screen	1set	40 mesh

9 Maintenance Log

Please use record the details that you conduct a maintenance service, such as replacement of a part, tear-down cleaning, post-failure repair, etc.

Equipment name			Pneumatic diaphragm pump <PD160>		Purchase date:	
Date of service			Portion worked on	Description	Result	Who serviced
						In-house / Dealer / Asahi Sunac
						In-house / Dealer / Asahi Sunac
						In-house / Dealer / Asahi Sunac
						In-house / Dealer / Asahi Sunac
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						In-house / Dealer / Asahi Sunac
						In-house / Dealer / Asahi Sunac

Note: Due to continuous improvements and modifications, the configurations specified herein are subject to change without prior notice.

10 Warranty

ASAHI SUNAC CORPORATION (the “Company”) shall provide the original purchaser (the “Purchaser”) with warranty service for a period of one (1) year from the date of purchase of the product, as follows:

- Should you find defects in design or workmanship with regard to parts, ship them back to the Company, with freight prepaid. The Company shall repair or replace the parts free of charge and reimburse the freight charges, provided that, as a result of an inspection and investigation of the parts conducted by the Company, the defects are deemed to be to attributable to the factors within the Company’s responsibility.

- In the following cases, free after-sales service is not provided.

  1. Failure resulting from an inappropriate method of installing this equipment.
  2. Failure resulting from a use method not conforming to this instruction manual or mishandling.
  3. Failure resulting from insufficient maintenance management of this equipment and incorrect handling such as non-conformance to the procedures specified in this instruction manual.
  4. Failure resulting from unauthorized alteration or structure change of this equipment without the Company’s consent.
  5. Failure due to force majeure such as earthquake, disaster, flood disaster or lightening.
  6. Warranty for consumables worn or deteriorated even in the case where this equipment is used correctly.
  7. Repair after the machine has been used outside Japan, and shipping cost.
  8. In addition to the above, failure due to circumstances beyond our control.

- As for items such as parts purchased by the Company from another manufacturer, the warranty of that manufacturer shall apply.

- As for any parts deemed to be defective, the Company shall not be held liable for any expenses beyond the provision of repair or replacement parts free of charge.

- The Company shall not be held liable for any damage to the Purchaser caused by factors not attributable to the Company, such as misuse of product, etc.

【MEMO】

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●When a transfer of title of this equipment takes place, please see to it that this Operation and Maintenance Manual is handed over to the new owner.

●This equipment is manufactured in compliance with the Laws and Regulations of Japan.
In the rare eventuality of this equipment being used outside Japan, compliance with the safety standards of the relevant countries is of course mandatory.

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