ASAHI SUNAC

Instruction Manual

Paint Feeder

GP092A/094A

Ec'Coater™ エコーター

This manual contains important information on warnings and cautions.
Read the manual thoroughly before starting to operate the equipment, and follow the instructions.
Always keep the manual handy until such time as the equipment 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.

14th edition: November 10, 2025

Introduction

Thank you for purchasing our product Paint Feeder < GP092A/GP094A >.

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.

Contents

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1 Warranty and After-sale Service

This equipment is designed, manufactured and inspected so that it can function in better conditions after environmental tests, supposing various service conditions.
If the equipment suffers a breakdown in normal service conditions, please contact the Company's service office or the Company and request after-sale services.
The pump is warranted for 6 months and the other parts for 1 year. Note that the gear pump packings are consumables and are not covered by our warranty.

2 Outlines

This equipment is a device to feed a specified volume of paint to an air spray gun.

① Since the discharge rate is accurate and can be set and indicated in a digital way, the setting and adjustment of discharge rate can be controlled in figures.
② The equipment can securely feed even a small discharge rate.
③ The equipment composed of motors and inverters has been certified by a pressure- and explosion-proof test and may be used in a 1st category dangerous place, except the control panel.
④ It has a set cleaning circuit and normally provides the maximum discharge rate at the time of cleaning, which allows a fast flow rate in the system and improves the operation efficiency.
⑤ Soft start and soft stop circuits allow smooth start and stop of the motor.

3 Equipment Specifications

No.	Model	GP092A	GP094A
1	Power supply	3-phase 3-wire AC 200 - 230 V 50/60 Hz	
2	Consumption current	MAX 3A	
3	Number of pumps	2	4
4	Discharge rate	70 - 450 mL/min at 1 pump 600 mL/min at 1 pump at the time of cleaning	
5	Standard gear ratio	Approx. 1: 4 Motor side: 19T Pump side: 75T	
6	Motor	Pressure- and explosion-proof inverter motor 3-phase 200 V 50/60 Hz 400 W	
7	Pump	GP15 (Part No.: 3704) G3/8 for both of suction and discharge sides	
8	Mass and dimensions	Mass 48 kg	Mass 54 kg
		Dimensions 1293 H × 480 W × 348 D mm	
9	Model, mass and dimensions of control panel unit	Model CBG10A Mass 50 kg Dimensions 1800 H × 700 W × 250 D mm	
10	Rotation change method	Frequency conversion method	
11	Ambient temperature and humidity	0 - 40°C; Relative humidity 90% or less	
12	Applicable paint viscosity	15 - 60 seconds/FC#4 (minimum viscosity: 10 seconds or more)	

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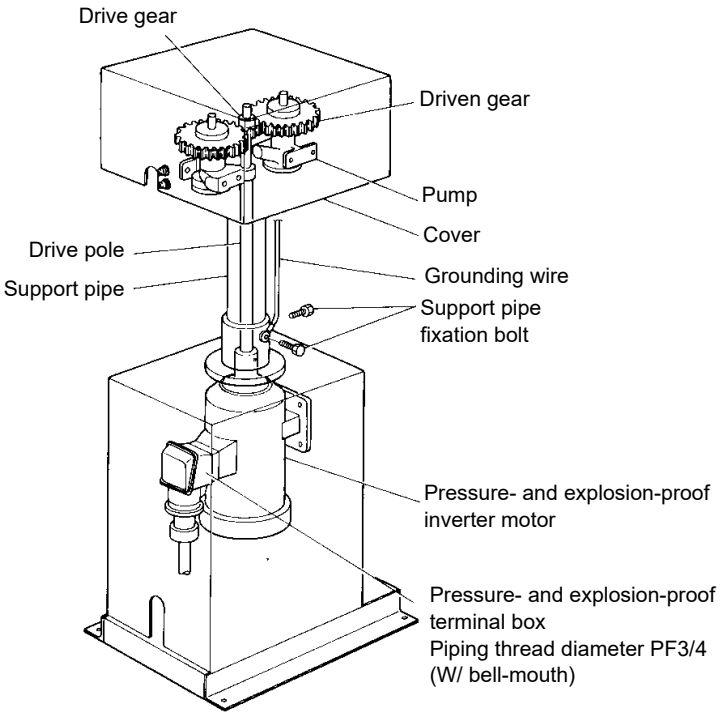
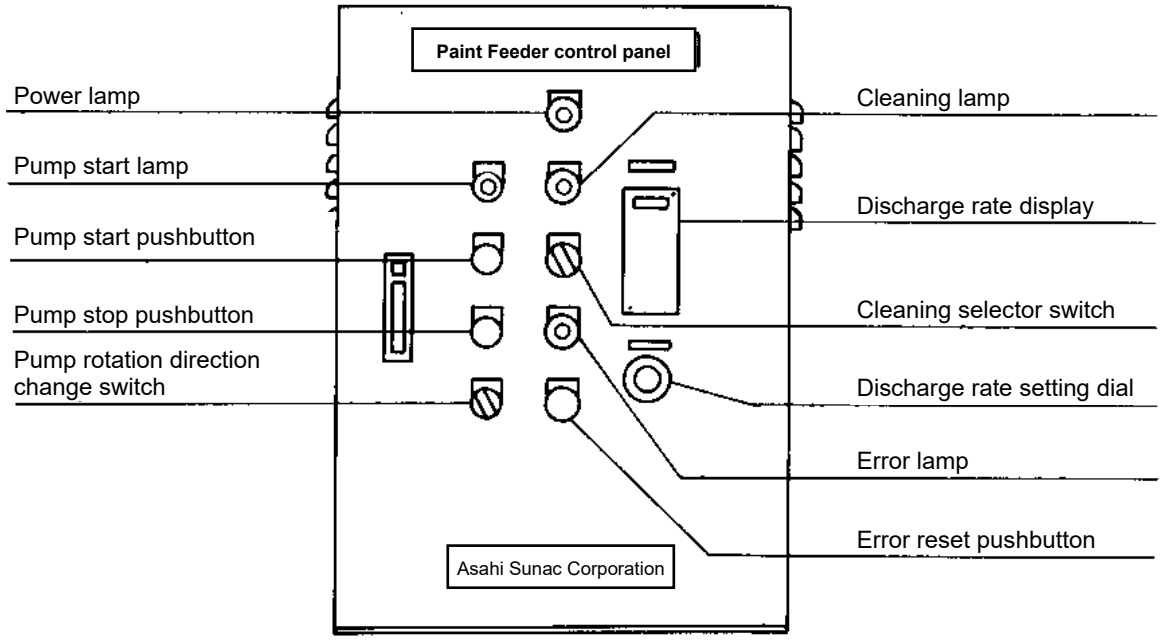
4 Composition

① Pump unit

GP092A
GP094A

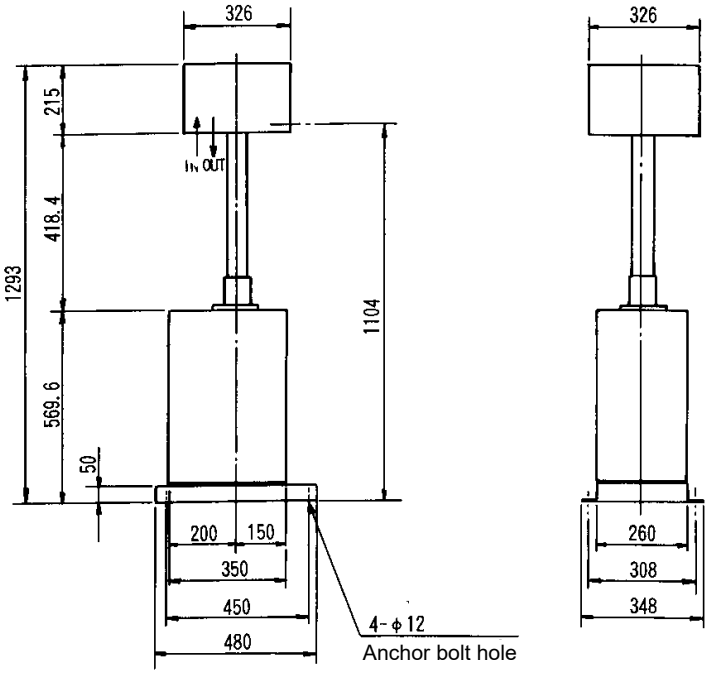


② Control panel (CBG10A)

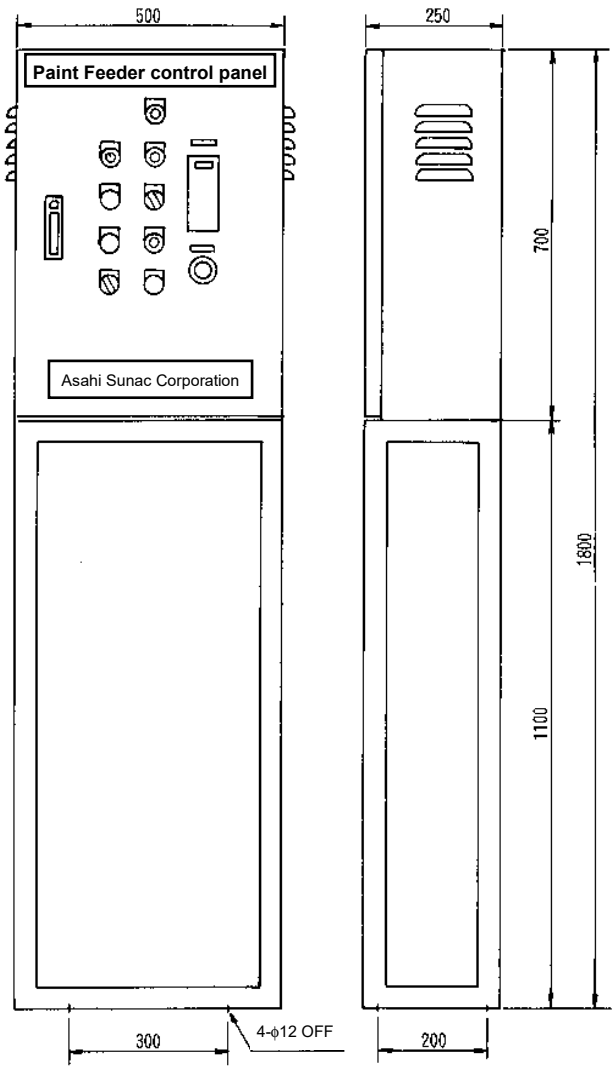


5 Outside Dimensions and Circuit Diagram

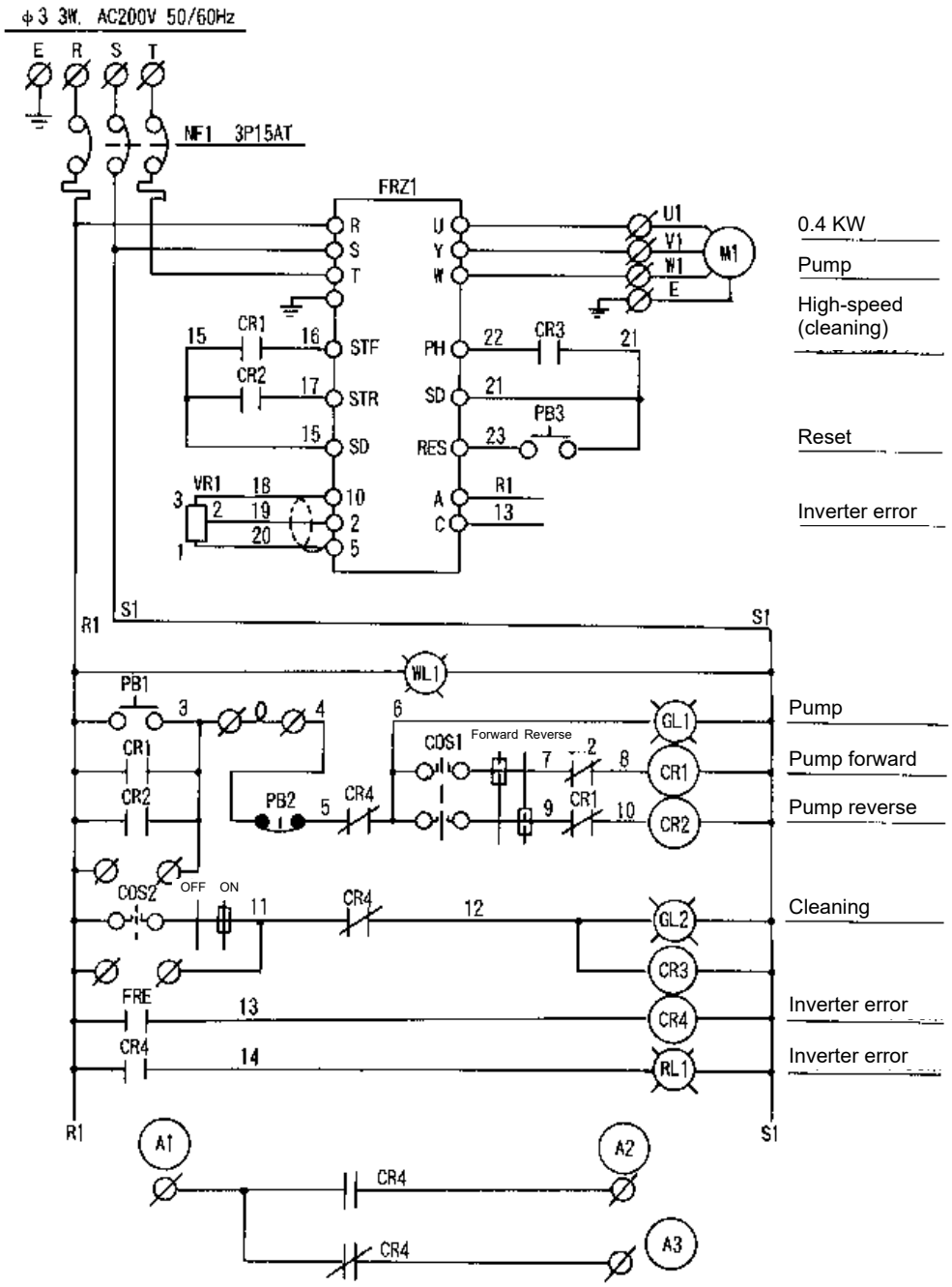
① **Pump unit**



② **Control panel (CBG10A)**
Outside dimension drawing

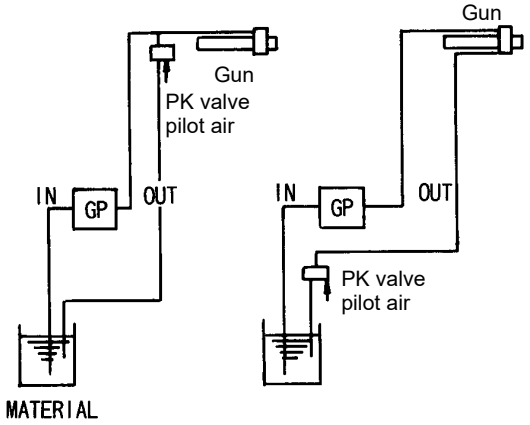


③ Control panel circuit diagram



④ Standard paint circuit

- If there is any resistance such as an orifice on the paint passage, the discharge rate and suction time may vary.
- Do not attach any orifice to the gun.
  An orifice causes variation of discharge rate.
- The paint circuit shall be made of pipes whose bore is equal to or smaller than 6 mm and which are easy to clean.



6 Installation Method and Safety Precautions

① If the equipment is installed in a 1st category dangerous place, install the control panel (which is not explosion-proof) in a non-dangerous place.
Since the unit body (motor) is pressure- and explosion-proof, add pressure- and explosion-proofing works to the zone between the control panel and motor (wiring shall be done with 2 sq or larger 4-wire wire (including grounding wire)).
② The unit shall be fixed by anchor bolts (M10 x 4) according to the outline drawing.
③ Be sure to ground the control panel as well as the pump unit.
④ Do not install the control panel or pump unit in a place where the ambient temperature exceeds 40°C. (The inverter or motor may got broken.)
⑤ If conductive paint such as metallic paint is used, place the equipment 300 mm or more away of the grounded object (wall of booth, insulating stand for paint tank, etc).
⑥ Install the equipment in a place away of water, oil or paint mist.
⑦ Do not install the equipment in a place where the temperature fluctuates to a large extent.
⑧ Although the equipment is protected from noises, do not install it near any equipment vulnerable to noises.
⑨ Note that the inverter may got broken if the equipment is checked for insulation by a megger (insulation resistance tester) after connection between the control circuit and motor.
⑩ Be sure to install and wire the equipment referring to the circuit diagram. If a wire is connected to a wrong terminal, the equipment may get broken.
⑪ After wiring, check the rotation direction (as per arrow indicated under the drive gear). See Troubleshooting.
⑫ The smoothing capacitor does not discharge soon after the power is turned off.
Inspect the capacitor a few minutes after the power is turned off.
⑬ Be sure to bring the connector housing when connecting or disconnecting any connector, etc.
As there are many connectors, be careful not to insert any wire into a wrong connector.
⑭ Inspection item

Inspection item	Content of inspection	Action
Relay	• Verify that the contact is not worn. • Verify that it smoothly and securely functions.	If any defective part is found by a check, please contact us.
Transistor Diode Smoothing capacitor Printed board	• Check whether there is any abnormality such as discoloration or off-flavor. • Check whether any metal powder, washer, or chip of power supply is included.	
Terminal, connector Tightening bolt	• Verify that no screw is loose.	Re-tightening

If a large amount of dust is found accumulated, remove it by blowing compressed air in maintenance and inspection operations, taking care not to give any shock to the parts.
Notwithstanding the above, if conductive dust or any powder that may lead to a contact failure is accumulated, remove it with an electric vacuum cleaner.

Maintenance action not to be taken

Do not perform a megger test to a printed board terminal or a part on the printed board.

⑮ When transporting the equipment, be careful not to apply a load to the insulation pole.
(Applying a load may deform or damage the insulation pole.)
⑯ If conductive paint is used, place disconnect the grounding wire between the pump and pipe base.

7 Operation Precautions

① At the time of commissioning after installation, the pump may be dry and may fail to start suctioning. In such a case, flow thinner or any other liquid into the suction hose for pump-priming.

② Idling a gear pump shortens the life of the pump. Do not idle the pump for 1 or more minutes. Doing so will cause a breakdown.

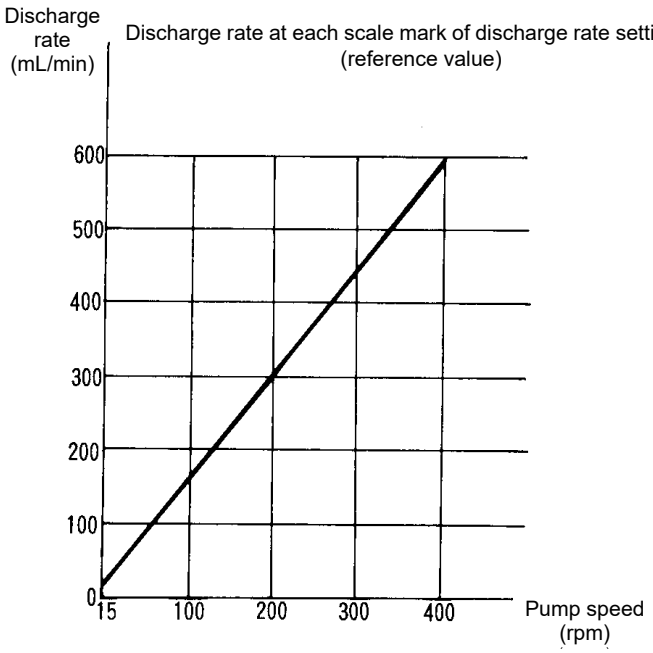
③ Before reversing the rotation direction, make sure that the motor has stopped completely.

④ Do not operate the equipment in high-speed cleaning mode for a long time. Doing so shortens the life of the pump.

⑤ If the line is put into a long-term suspension of operation, wash the gear pump well and fill the pump with thinner.
(Paint may coagulate in the pump.)

⑥ The discharge rate may present a different performance curve from the theoretical discharge rate, according to the physical properties and viscosity of paint. The discharge rate is reduced by wear of gears. Prepare a discharge rate calibration table at the time of installation and at least once a month.

< Discharge rate calibration table >



8 Operation Procedures

① Prepare thinner for cleaning in a vessel.

② Put the suction pipe of the pump into the thinner.
Make sure that the hose joint between the pump and gun is not loose.

③ Put the rotation selector switch to the high-speed cleaning mode and press the operation button.
After making sure that thinner is transferred to the gun, stop the motor. (Put the selector switch to dial setting and adjust the discharge rate to the specified rate by the dial according to the discharge rate calibration table. High-speed cleaning mode shall be used for as short time as possible.)

④ Replace thinner by paint and take the steps ① to ③.

⑤ When changing colors, take the steps ① to ③ for thinner and then for paint.

⑥ If a precipitable paint is used, take the steps ① to ③ with thinner for cleaning after operation of a day.

Note : Since high-speed cleaning shortens the life of the pump, high-speed cleaning mode shall be used for as short time as possible.

: Idling markedly shortens the life of the pump.

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9 Maintenance and Inspection

① Daily inspection

(1) Check of vibration, abnormal noise, heating (especially in summer, keep the ambient temperature of the control panel below 40°C) and looseness of screws

(2) Check of leak from pump seal and re-tightening

② Monthly inspection

(1) Check of discharge rate

Also check the pump speed. If the relationship between dial number and discharge rate differs from that in the initial status by 10% or more, replace the gear pump.

(2) Bend or damage of hoses and looseness of joints

(3) Check of grounding wire

③ Semi-annually inspection

(1) Re-tightening of bolts

(2) Check of wear of joint coupling between drive shaft and motor

(Manually rotate the drive gear in forward as well as reverse directions with a rapid speed to see the play with the motor. If any noise occurs at the lower of the shaft, replace the coupling.)

10 Parts Replacement and Disassembly Method

① Replacement of gear pump

(1) Remove the cover.

(2) Remove the set screw (M6) of the driven gear with a hex. wrench Hex3.

(3) Disconnect the paint hose at both of the discharge side and the suction side.

(4) Pull the driven gear upward to take it out of the unit.

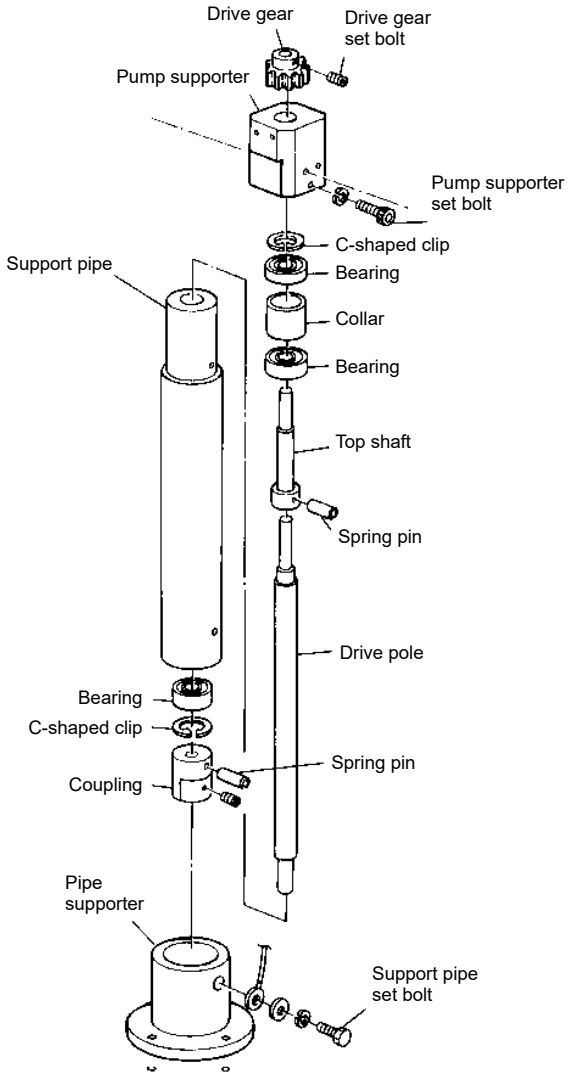
(5) Remove the pump fixation screw (M8) with a hex. wrench Hex6 and install a new gear pump.

(Adjust the backlash of the gear to 0.1 mm and ensure parallelism between the drive gear and the driven gear.)

(6) Assemble the unit according to the inversed order of the disassembly procedures ((1) to (5)).

② Replacement of drive pole

The drive pole may be damaged by inclusion of foreign matters in the pump, seizure of the pump due to insufficient cleaning or other reasons.



(1) Remove the drive gear set bolt and disassemble the drive gear.

(2) When the pump supporter set bolts (M8 x 2) are removed, the upper pump unit can be removed.

(3) Then, when the 2 bolts fixing the support pipe are removed, the combination of pipe and drive shaft can be removed. Remove the C-shaped clip fixing bearing at the both ends.

(4) Then, fix the support pipe and tap it from the upper side (drive gear side) to push the shaft off the pipe.

(5) Remove the coupling from the lower (motor side) of the shaft.
(A spring pin is press-fitted.)

(6) Then remove the bearings and replace them with new ones.

Assemble the unit according to the inversed order of the disassembly procedures ((1) to (6)).

11 Discharge Rate Display Method

Set the display from the operation panel of the inverter on the control panel according to the following procedures.

Measure the discharge rate at 10 Hz and 20 Hz of set operating frequency and set the converted discharge rate corresponding to 60 Hz as the parameter of the inverter. The parameter setting shall be done with the equipment not operating.

Example Discharge rate at 10 Hz: 116 mL/min
Discharge rate at 20 Hz: 229 mL/min

$$\text{Set value} = \frac{\frac{60^{HZ}}{10} \times 116 + \frac{60^{HZ}}{20} \times 229}{2}$$

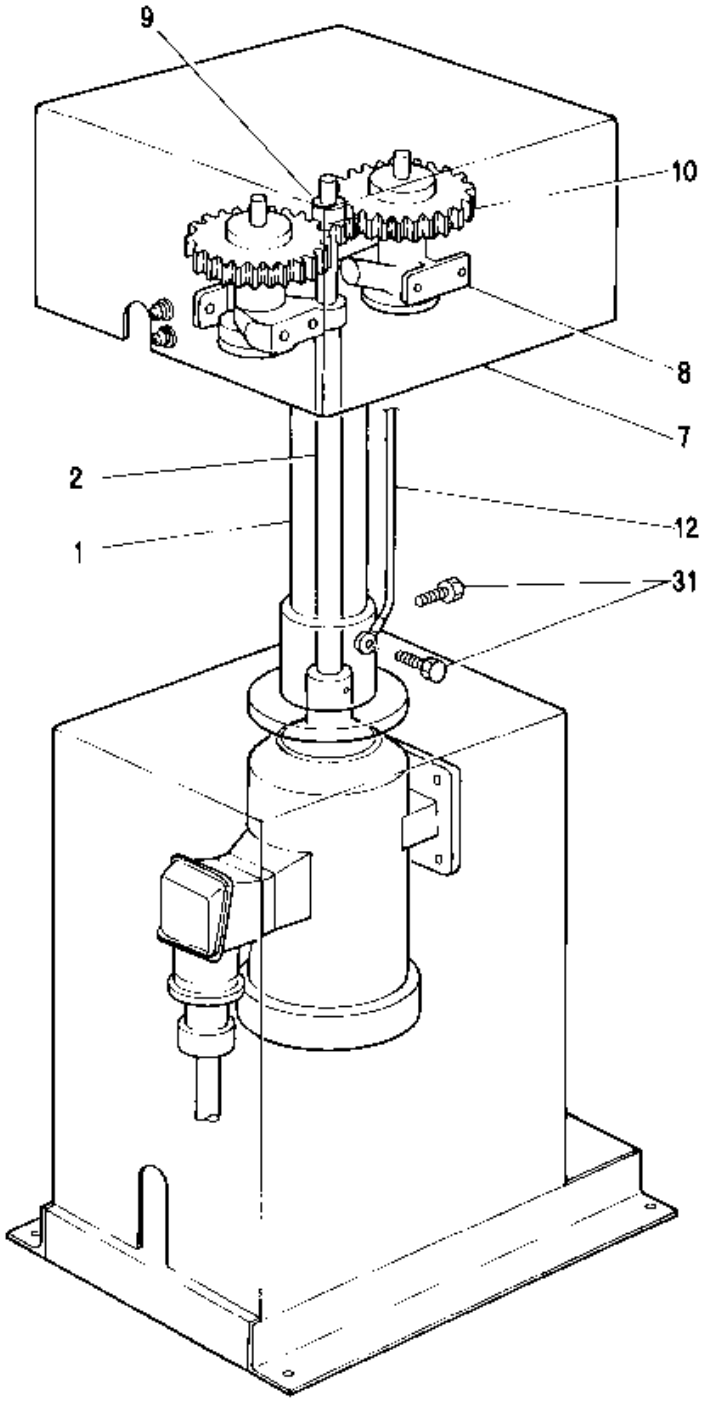
$$= 691.5 \rightarrow 692 \text{ mL}$$

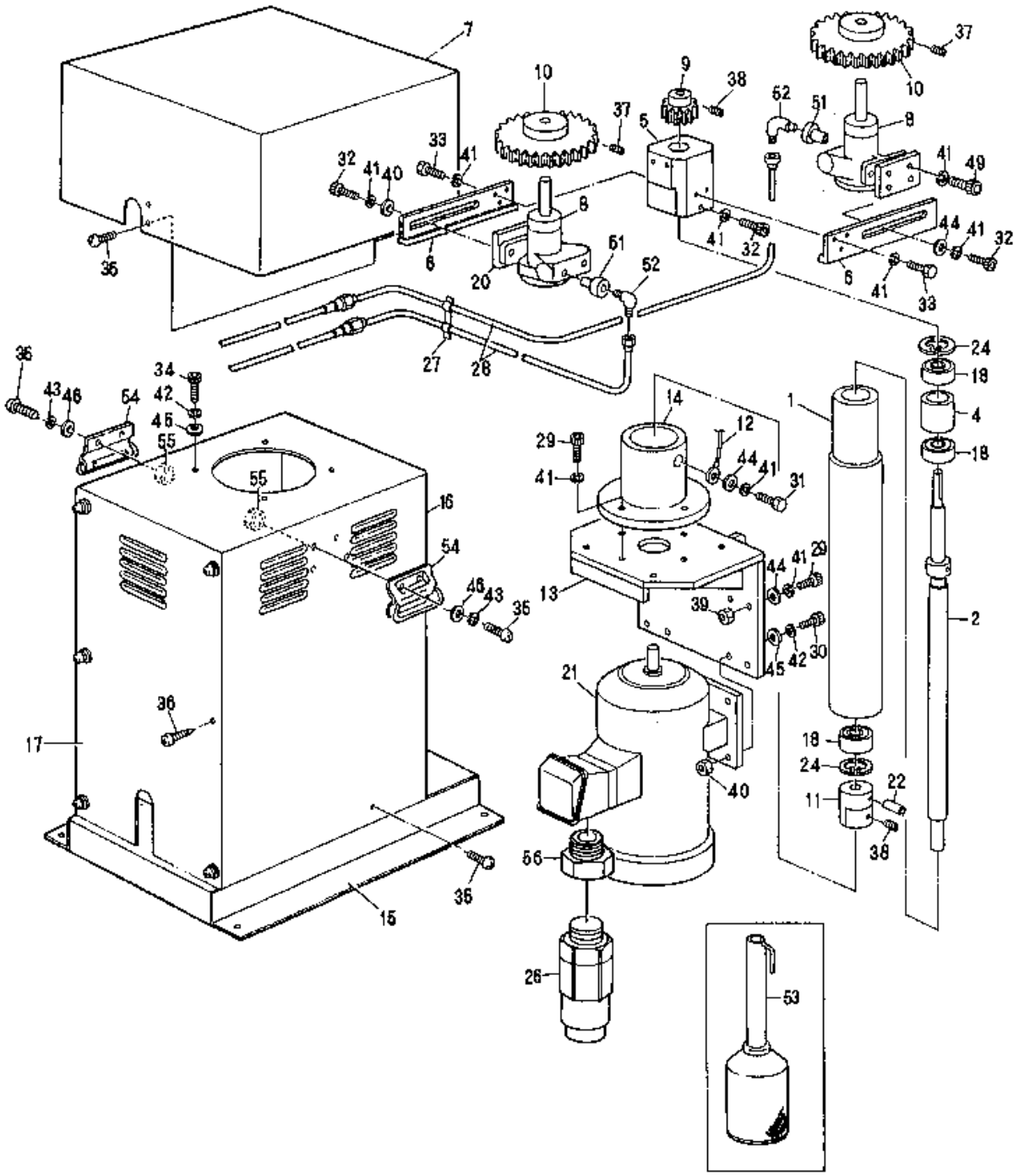
Load the inverter's parameter "37" and set the machine speed at the set frequency to the discharge rate mentioned above.
For details, see the instruction manual supplied with the inverter.

12 Troubleshooting

Phenomenon of failure	Presumed cause	Countermeasures and actions
1. The motor does not function when the operation button is turned on.	< Control Part > ① Power is not supplied. ② No Fuse Breaker has tripped. ③ Voltage fluctuates too largely. ④ Wiring is not securely done. ⑤ The inverter functions have not been set. ⑥ The inverter protection indicator lamp illuminates.	 ① Supply the power. ② Reset the No Fuse Breaker after making sure that the gear pump can be rotated manually. ③ Keep the voltage within the allowable voltage. (A transformer or another device shall be used.) ④ Correct the wiring. ⑤ Replace the discharge setting volume or repair or replace the inverter. ⑥ If the external thermal relay error is indicated, the motor load is too large. Check the operation of the pump and coupling. • If the inverter overheat is indicated, the ambient temperature is too high. Make sure ventilation. • If over-current is indicated during operation, there may be any short-circuit on the wire connecting line. Check the circuit.
2. While the motor rotates, the pump does not rotate.	① Breaking of drive shaft ② The connection between the drive shaft and coupling or between the motor and coupling is disconnected. ③ Looseness of set screws of drive gear and driven gear	① Replace the drive shaft. ② The set is fixed by a spring pin. Check the pin fixation and replace the pin. If the mounting hole is found deformed, also replace the coupling. ③ Re-tightening of set screws
3. The motor speed is too high or too low.	① Check that the maximum frequency is set correctly. ② Check that the voltage between motor terminals are not too low.	① Check the maximum frequency. ② Check the base frequency (V/F).
4. The speed fluctuates during operation.	① Check that the frequency setting voltage does not fluctuate. ② Check that the load does not fluctuate too largely.	① Correct it. ② Check whether any rotating parts are interfering.
5. The motor rotates in an inverted direction.	① Check whether the output terminals U, V and W are connected correctly.	① Make the phase sequence of the output terminals equal to the motor.
6. While the motor rotates, its speed does not change.	① Check that the frequency setting circuit are wired correctly. ② Check that the load is not too large.	① Correct the wiring. ② Decrease the load.
7. While the paint pump normally rotates, the discharge rate is too low.	① The suction hose sucks air. ② Defective sealing of gear pump ③ Wear of gear pump ④ Inclusion of foreign matters in gear pump	① Re-tighten the pump joint of the suction pipe. • The hose has any damage → Replace it • The end of the suction pipe is not immersed in paint. ② Repair or replace the gear pump. ③ Replace the gear pump. ④ Clean or repair and replace the gear pump.

13 Names of Parts and Assembly Drawing





Paint feeder GP092A (7501-1) GP094A (7502-1)

No.	Part No.	Part name	Quantity		Remarks
			GP092A	GP094A	
1	7501-001	Support pipe	1	1	
2	7501-002	Drive pole	1	1	
3	Nil				
4	7501-004	Collar	1	1	
5	7501-005	Pump supporter	1	1	
6	7501-006	Branch	2	4	
7	7501-007	Cover	1	1	
8	3704	Gear pump	2	4	
9	7501-009	Drive gear	1	2	
10	7501-010	Driven gear	2	4	
11	7501-011	Coupling	1	1	
12	7501-012	Grounding wire	1	1	
13	7501-113	Motor base	1	1	
14	7501-014	Pipe base	1	1	
15	7501-015	Stand	1	1	
16	7501-116	Motor cover A	1	1	
17	7501-017	Motor cover B	1	1	
18	312-0005	Bearing	3	3	
19	Nil				
20	7501-120	Adapter	2	2	
21	418-0055	Explosion-proof motor	1	1	418-0017 before 2001
22	54-70636	Spring pin	1	1	
23	Nil				
24	56-23500	C-shaped hole snap ring	2	2	
25	54-70520	Spring pin	2	2	
26	446-0001	Pressure-proof packing	1	1	
27	419-0003	Convex	5	5	
28	5612	Suction hose	4 sets	8 sets	
29	03-80830	Hex. socket head cap screw	8	8	M8 × 30L
30	03-80630	Hex. socket head cap screw	4	4	M6 × 30L
31	01-10822	Hex. bolt	4	4	M8 × 22L
32	03-80820	Hex. socket head cap screw	6	8	M8 × 20L
33	01-10815	Hex. bolt	4	8	M8 × 15L
34	01-10612	Hex. bolt	4	4	M6 × 12L
35	68-10515	Cross-recessed round head machine screw	8	8	M5 × 14L
36	13-10408	Three-point sems screw	12	16	M4 × 8L
37	86-50615	Hex. socket head cap set screw	2	4	M6 × 15L
38	86-50606	Hex. socket head cap set screw	3	5	M6 × 6L
39	15-10800	Hex. nut	4	4	M8
40	15-10600	Hex. nut	4	4	M6
41	41-80800	Spring washer	24	32	M8
42	41-80600	Spring washer	8	8	M6
43	41-80500	Spring washer	8	8	M5
44	37-10800	Plain washer	10	10	M8
45	37-10600	Plain washer	8	8	M6
46	37-10500	Plain washer	8	8	M5
47	Nil				
48	Nil				
49	03-80816	Hex. socket head cap screw	4	8	M8 × 16L
50	Nil				
51	291-2002	High-pressure bushing	4	8	
52	347-0002-1	Elbow union	4	8	
53	0518	Suction filter	1 set	2 sets	SFC-80G
54	323-0025	Handle	2	2	
55	15-10500	Hex. nut	8	8	M5
56	456-0604	Adapter	1	1	3/4 × 1/2

14 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			Paint feeder <GP092A, GP094A >		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
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Note: Due to continuous improvements and modifications, the configurations specified herein are subject to change without prior notice.

15 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.

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【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.

14th Edition: November 10, 2025

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