

LEVER FREE BALL FLOAT AIR DRAIN TRAP

AGC1V

USER'S MANUAL



 **MIYAWAKI INC.**

SAFETY GUIDE

The model AGC1V is a lever free ball float air drain trap designed for continuous discharge of condensate from air piping, receiver tanks, gas and compressed air system.

In order to get maximum benefit from this product, be sure to read this manual before installing it.

The following warnings and cautions are shown at appropriate places in this manual.



Failure to observe this type of precaution may lead to serious injury or death.



Failure to follow this type of precaution can lead to injury or damage to equipment and property.

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1 SPECIFICATIONS AND MARKINGS



WARNING

Be sure not to use this product at higher pressures than the specified maximum operating pressure (PMO) or at temperatures higher than the specified maximum operating temperature (TMO).

The following items are displayed on the name label or the side of the product.

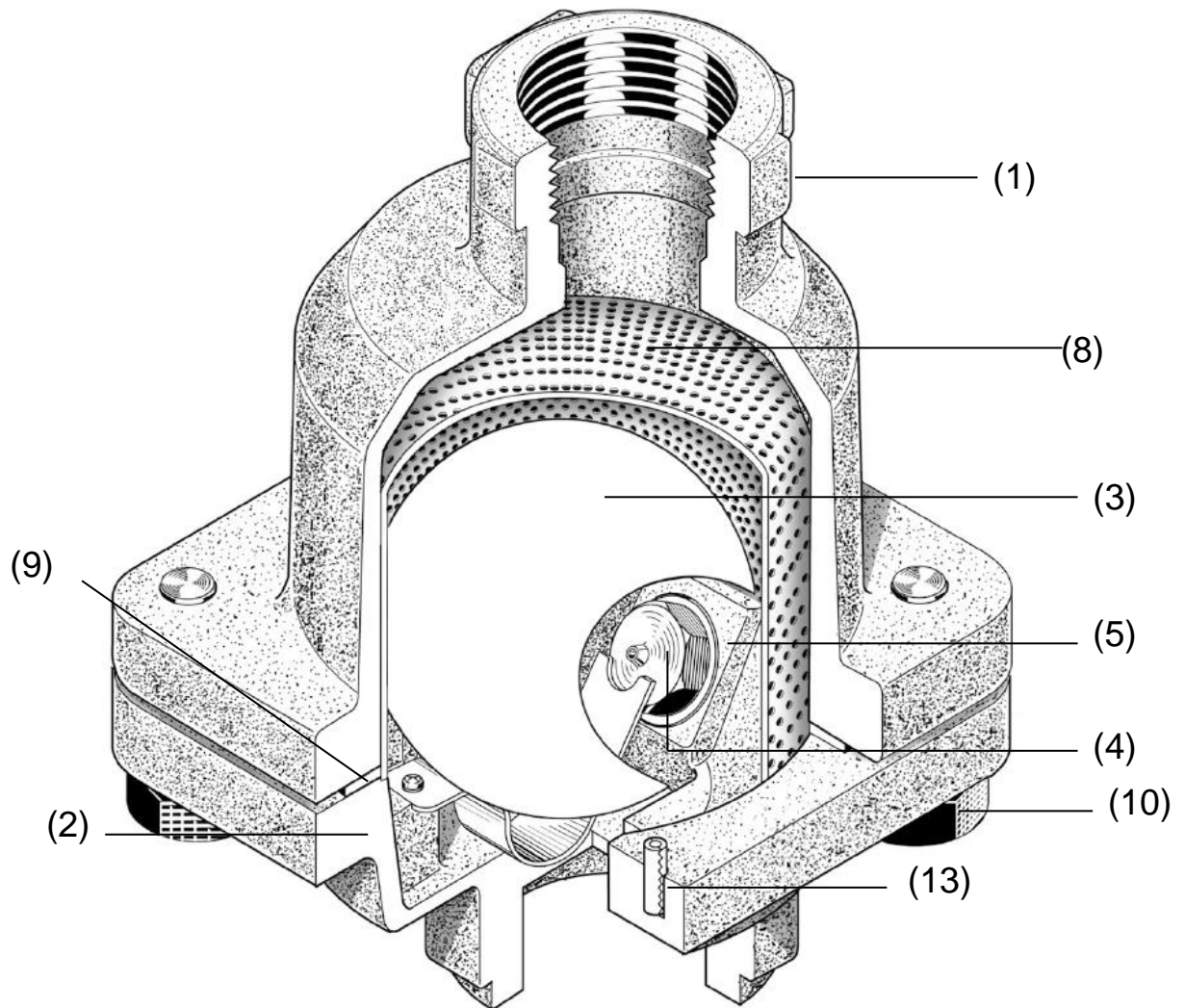
Check each item to avoid misuse of the product.

- 1) Maximum allowable pressure (PMA): 2.1MPa (305psig)
- 2) Maximum allowable temperature (TMA): 350°C (662°F)
- 3) Maximum differential pressure (Δ PMX): 2.1MPa (305psig)
- 4) Maximum operating temperature (TMO): 350°C (662°F)
- 5) Size: 15mm (1/2"), 20mm (3/4"), or 25mm (1")
- 6) Year of production: The two leftmost digits in the four-digit or nine-digit 'S No.' on the name plate are the last two digits of the year of production.
- 7) Flow direction: Shown by an arrow
- 8) Body material: SCS13A/CF8
- 9) Model symbol: Showing the product model name

Some pictures and illustrations in this manual are that of the representative model. For more details regarding dimensions and other specifications, please refer to the catalog.

The model AGC1V fully complies with the requirements of the European Pressure Equipment Directive 2014/68/EU. It is classified according to Article 4, Section 3 of the PED, which does not allow to bear the CE marking.

2 CONSTRUCTION DETAILS



-
- | | |
|----------------------|-----------------|
| 1. Body | 8. Screen |
| 2. Bottom Cover | 9. Cover Gasket |
| 3. Float | 10. Bolt |
| 4. Valve Seat | 13. Spring Pin |
| 5. Valve Seat Gasket | |

3 INSTALLATION



WARNING

Pay very careful attention when working in hazardous environments. There is a risk of explosion and the possibility of dangerous gases leaking. Always check whether the pipeline contains flammable, high pressure or high temperature materials before starting to work.

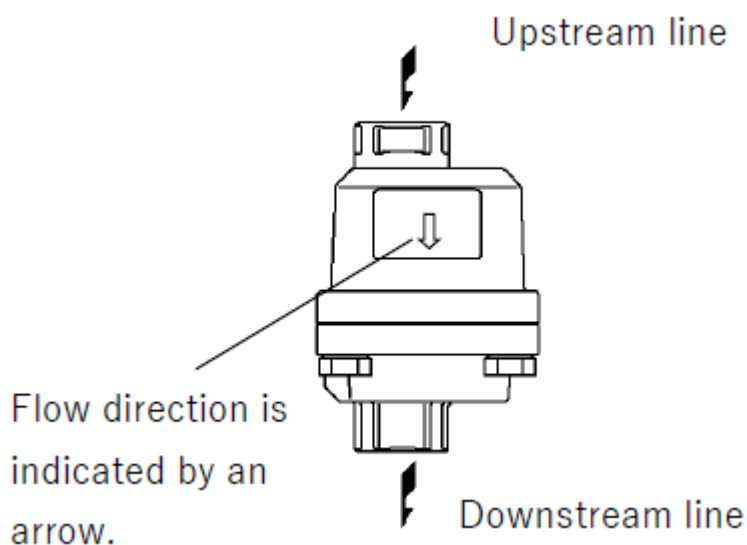
- Make sure that isolation valves are installed on both the upstream and downstream lines.



CAUTION

Before installing the product, open both isolation valves and the bypass valve, if one exists, to blow out any debris or dirt inside the pipeline. After blowing out the line, before starting to work, close the isolation valves and allow time for the temperature to drop to a safe working temperature.

When installing the product, be sure to leave clearance for maintaining it.



- 1) Remove the dustproof seals covering both connections.
※Products shipped in plastic bags may not have dustproof seals.
- 2) Check the flow direction indicated on the side of the body.
- 3) When installing an AGC1V, make sure to keep the flow direction parallel to a plumb line (basically pointing up or down).
If the installation angle slants more than five degrees away from the angles described above, the operating performance may be reduced.
- 4) Install the trap at the lowest position where condensate is collected.
- 5) Open the isolation valve on the upstream line slowly and make sure the product works normally.

4 OPERATION



CAUTION

Before starting operation, open the bypass valve or blow valve completely and blow off the scale in the piping.

4.1 Operation procedure

- 1) After blowing off the scale from the piping, close the bypass valve or blow valve.
- 2) Open the isolation valve on the trap outlet side.
- 3) Open the isolation valve on the trap inlet side.

4.2 Stop procedure

- 1) Close the isolation valve on the trap inlet side.
- 2) Close the isolation valve on the trap outlet side.

* When stopping for a long time, completely drain the condensate from the piping and trap and close the valves before and after the trap.

5 MAINTENANCE



WARNING

- Before removing the trap from the pipe or disassembling it, be sure to close the isolation valves. Then, release the residual pressure from the trap body (make sure that the pressure in the main body is equal to the atmospheric pressure). After it has fully cooled down (after the temperature of the main body has reached ambient temperature), confirm for safe conditions and then begin to work.
- Even when the isolation valves are closed, there may be residual internal pressure due to leaks from the isolation valves. Therefore, be very careful.



CAUTION

- When replacing parts, make sure the replacement parts are supplied by Miyawaki.

The performance of drain traps deteriorates gradually over time due to wear, corrosion or dirt accumulating around the valve seat. To keep air (gas) control systems and equipment working well, periodic maintenance of drain traps is essential.

5.1 Repairs

When a trap fails, it is necessary to clean the internal parts and to replace damaged parts. Take the failed trap apart following the steps below.

5.1.1 Disassembling the trap

- 1) Remove the four cover bolts (10), and detach the bottom cover (2), while keeping the body (1) facing down.
- 2) Remove the screen (8), the float (3), and the cover gasket (9) in that order.
- 3) Repair the trap according to the instructions in "Troubleshooting".



CAUTION

Clean the Body and Bottom Cover with care not to damage the sealing surface. Scratches on the sealing surface may cause air leakage.

Take appropriate measures according to "6. Troubleshooting". After cleaning the trap and replacing damaged parts, reassemble the parts in the opposite way as disassembling. Refer to the torque table for the necessary torque.

After repairing the trap, re-assemble the parts in reverse order as follows.

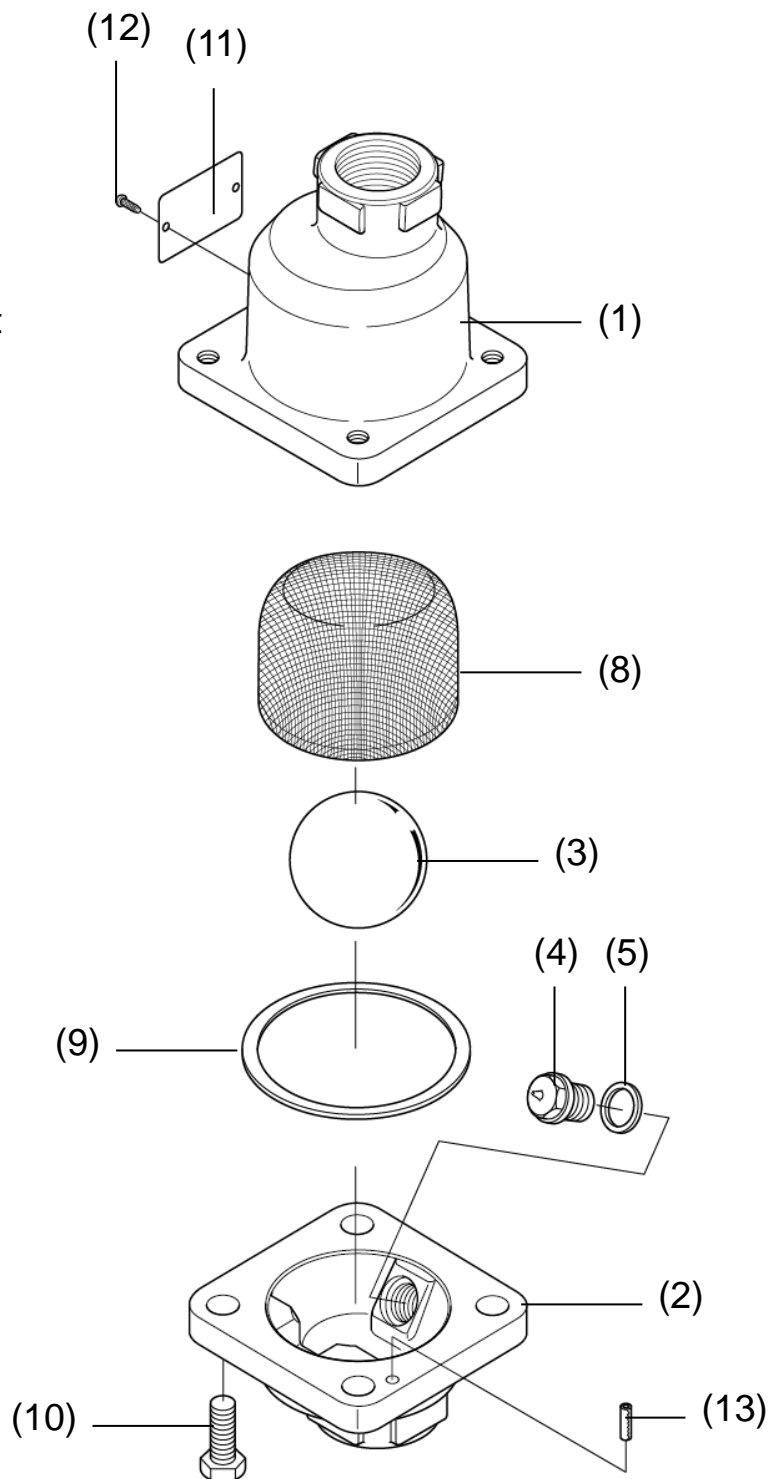
5.1.2 Reassembling the trap

- 1) When putting the body (1) and the bottom cover (2) together, orient the body and cover by inserting the spring pin (13) in the body (1) into the hole on the bottom cover (2).
- 2) When fastening the four cover bolts (10), tighten each one the same amount, going around the four bolts several times.
- 3) The cover gasket (9) must be replaced with a new one each time the trap is taken apart.
- 4) The valve seat gasket (5) must be replaced with a new one each time the valve seat is detached from the bottom cover (2).
 - Make sure to tighten the bolts in a crosswise pattern, to avoid uneven tightening.

The torque for each part is shown in the following table.

Parts	Tools	Across the flats	Torque
Valve Seat (4)	Torque wrench	13 mm (0.51")	25N·m
Cover Bolt (10)	Torque wrench	17 mm (0.67")	28N·m

1. Body
2. Bottom Cover
3. Ball Float
4. Valve Seat
5. Valve Seat Gasket
8. Screen
9. Cover Gasket
10. Bolt
11. Name Plate
12. Rivet
13. Spring Pin



6 TROUBLESHOOTING

Problem	Possible cause	Solution
Air leaks or blows through.	Dirt is stuck around the valve or valve seat.	Clean the valve and the valve seat.
	Damage, erosion or corrosion of the valve seat.	Replace the valve seat.
	The valve seat is loose.	Tighten the valve seat. *1
	The float is damaged.	Replace the float.
	Installation position is wrong.	Change the installation position to Vertical.
	Wrong installation direction	Make sure the arrow on the main body matches the flow direction of the fluid.
Air leaks from the body.	The bolts are loose.	Tighten the bolts.*2
	The gasket is damaged or worn.	Replace the gasket.
	The sealing surface on the body or the bottom cover is damaged.	Replace the body or the bottom cover.
Insufficient condensate discharged, or no condensate discharged.	The screen is clogged.	Clean the screen.
	Dirt has built up on or around the valve seat.	Clean the valve seat.
	The float is damaged.	Replace the float.
	Wrong installation direction	Make sure the arrow on the main body matches the flow direction of the fluid.
	The air pressure exceeds the trap's maximum operating pressure.	Reduce the air pressure or replace the trap with a trap with higher PMO.
	Insufficient condensate capacity.	Replace the trap with a larger capacity trap.

*1 and *2: Refer to the torque table in Section 5, "Maintenance" to retighten the parts to the correct torque.

7 WARRANTY

7.1 Warranty period

The warranty period is 18 months after shipment or 12 months after installation, whichever occurs first.

7.2 Details of the warranty

If the product stops working correctly within the warranty period, we will repair or replace the product free of charge if the cause of the trouble is not one of the following items.

- 1) The precautions described in this manual were not observed.
- 2) User's errors or mistakes such as an inappropriate installation or incorrect handling, or an excessively large impact caused by dropping
- 3) Problems caused by devices or equipment other than ours, or a disallowed use environment
- 4) When a repair or modification has been performed by anyone other than us or people who are authorized to make such repairs
- 5) Intrusion of salt or other substances that promote significant rust or corrosion or problems from fluids that contain the same substances
- 6) Consumable parts such as Packing, Gasket, O-ring, Diaphragm, etc
- 7) Attachment or accumulation of foreign matter in the pipe, such as dust and scale
- 8) Problems from fires, natural disasters, or other force majeure which is not our responsibility

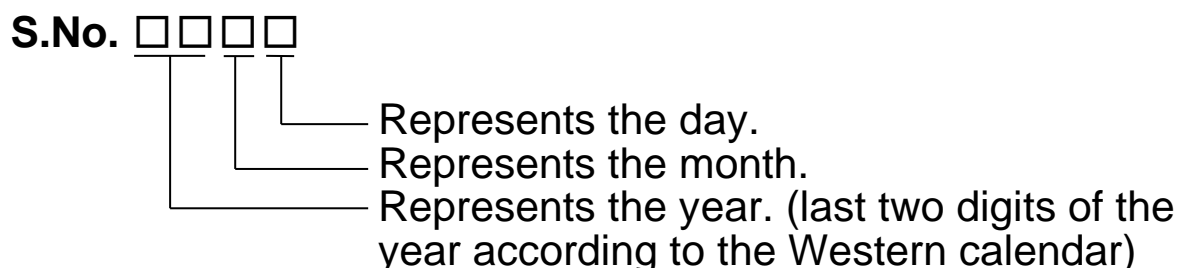
7.3 Warranty limitation

The remedy available under the warranty shall not exceed the sales price of the products delivered, for any cause whatsoever.

8 SERIAL NUMBER (S. No.) DESIGNATION

The following 4-digit or 9-digit “S.No.” is displayed on the product.

- For 4-digit display

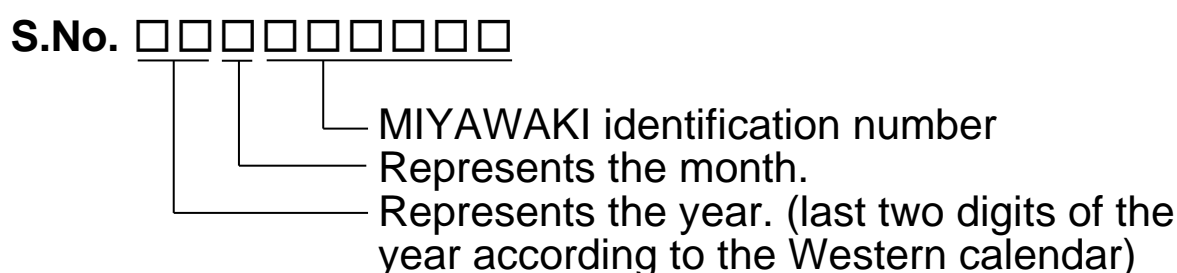


Example of serial number designation

1 7 1 1 → Jan.1, 2017

2 9 X M → Oct. 21, 2029

- For 9-digit display



Example of serial number designation

1 7 1 1 2 C 0 2 0 → Jan., 2017

2 9 X 0 5 M 0 5 0 → Oct., 2029

Month designation system

Month	1	2	3	4	5	6	7	8	9	10	11	12
Symbol	1	2	3	4	5	6	7	8	9	X	Y	Z

Day designation system

Day	1	2	3	4	5	6	7	8	9	10	11	12
Symbol	D	E	F	G	H	J	K	L	M	N	O	P

Day	13	14	15	16	17	18	19	20	21	22	23	24
Symbol	D	E	F	G	H	J	K	L	M	N	O	P

Day	25	26	27	28	29	30	31
Symbol	Q	R	S	T	U	V	W

9 GUIDANCE FOR READING SPECIAL PRODUCT NAME

○○○-○○-□

Special symbol:

**Symbol apply only to special product
(Please refer to table 1 for details)**

English letter after “-“

Model symbol:

Product model number

Table 1 Symbol description

Suffix	Special contents
A	Trap for high-pressure gas installed property (only for Gas Trap)
C	Blow valve attached
K	Change of gasket
L	Special face to face dimension
M	Change of parts material
P, T	Change of operating pressure, temperature, condensate capacity, etc
R	Change of screen mesh
V	Change of air vent
X	Other than mentioned above or complex of special contents above

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- For any questions about the product that you purchased or about the details in this user's manual, please contact the following.
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 - Some special specifications of the product may found to be different from the ones in the user's manual. If you have any question, please contact MIYAWAKI, our local authorized agent, or the company where you purchased the product.
 - In the interest of the development and improvement of our products, MIYAWAKI Inc. reserves the right to change the specification of the products without prior notice.
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By scanning QR Code, you can access inquiry form.



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