Automatic Rivet Feeding System
Instruction Manual

Ver.G

Professional model of feeding machine for blind rivet.
ARF700 sets will come with ARF700 Feeder, Feed Head, Feed Head Pole and Hose.

Thank you very much for purchasing “LOBSTER” automatic rivet feeding System.
To ensure correct operation, please read this instruction manual carefully, and keep it in a safe place for later reference.
In case you have some trouble and failure, please refer “Troubleshooting” in the Instruction Manual.
Details in this Instruction manual are subject to change for improvement without notice.

This is Original instructions. (Original Instruction Manual is written in English language.)

CONTENTS

・For replacement parts, refer to another booklet "Technical Manual".

ISO9001/ISO14001 **LOBTEX Co.,Ltd.**
TEL +81-72-981-7466 FAX +81-72-981-9420
12-8 Shijo-cho, Higashi-osaka City, Osaka 579-8053 Japan
URL http://www.lobtex.co.jp/

RY0700S01003

IMPORTANT SAFETY INSTRUCTIONS

Be sure to read the following Important Safety Instructions carefully and make sure that you understand them thoroughly before using this Rivet Feeding.
The Important Safety Instructions are divided into [⚠ WARNING] and[⚠ CAUTION] The differences between these two levels are described below.

[⚠ WARNING] : Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury to the operator.
[⚠ CAUTION] : Indicates a potentially hazardous situation which, if not avoided, may result in moderate injury to the operator or physical damage.

Moreover, failure to follow the instructions marked with the [⚠ CAUTION] symbol or cautions without a [⚠ CAUTION] symbol which appear in the text of this manual may also have serious results in some cases. Always be sure to observe the instructions given in the Important Safety Instructions.

After reading this manual, keep it in a safe place where it is easily accessible to all users.

⚠ WARNING

1. Operation voltage specified on the identification plate must be used.
   - ● Voltage greater than the specified voltage may cause malfunctions leading to an injury.
2. Ground clip must be connected with ground to prevent electric shock accidents.
   - ● Protect yourself from electric shock.
3. Do not put finger into Feed Head.
   - ● Rivet may come out and cause injury.
4. Rivet may come out and cause injury.
   - ● Rivets may be popped out and cause an injury.
5. Protection goggle must be used during operation.
   - ● Popping out of rivets or shafts (after cutting rivets) may cause an injury.
6. Air pressure must be 0.5 to 0.6MPa.
7. Be sure to connect the hoses or the cable securely.
   - ● Disconnection of those during operation may cause popping out of rivets or electric leakage.
8. Do not put in hands or keep your face close inside the Feeder or to Feed Head when the electric switch is on.
   - ● Rivet may come out and cause injury.
9. Workplace environment.
   - ● Keep the rivet feeder away from rain or wet place.
   - ● Keep workplace well lit. Working in dark place may cause an accident.
   - ● Keep the rivet feeder away from flammable liquids or gases.
10. Switch off the rivet feeder and unplug from power source when;
    - ● The rivet feeder is not used or is repaired.
    - ● Any hazard can be expected.

⚠ CAUTION

1. Keep your hand or finger away from cover in closing motion to prevent pinching.
   - ● Neglecting this caution may cause an injury.
2. The rivet feeder must be placed on flat place without slope.
   - ● Tumbling may cause an accident.
3. Transportation
   - ● Carrying the heavy system may throw out your back.
   - ● Protect your hand with gloves to lift the rivet feeder. The sharp edge of the bottom area may hurt your hand.
4. Operate the rivet feeder with a good posture.
   - ● Be sure to have a good foothold and a good body balance.
5. Keep your workplace always clean.
   - ● Messy workplace or working bench may cause an accident.

⚠ CAUTION

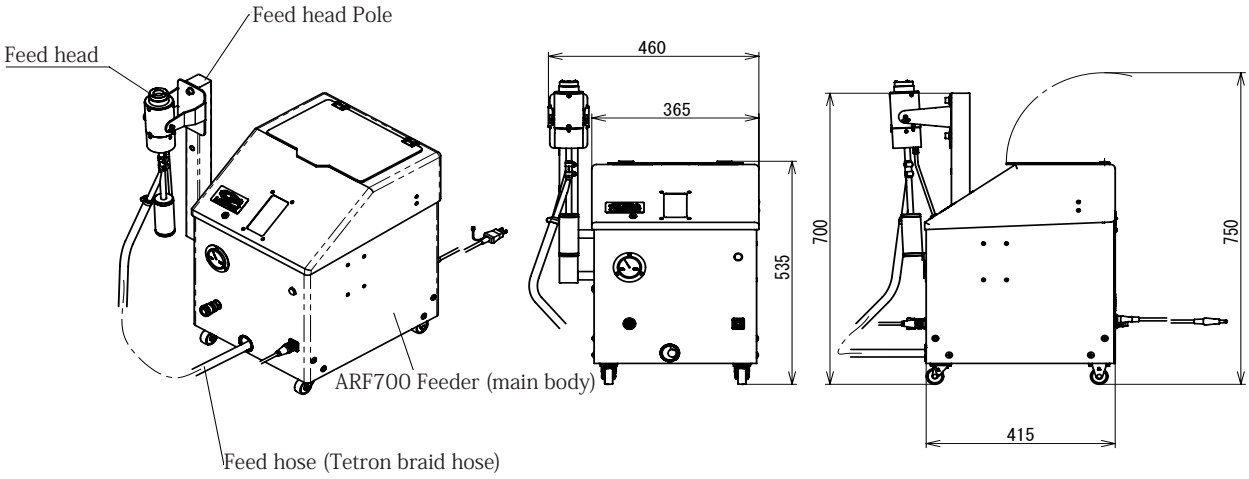
6. Do not drop anything in case of high workplace.
   - ● Be sure to check no one is underneath. If someone is underneath, dropping materials such as rivets or shafts after cutting rivets may cause an accident.
7. Keep children away from workplace.
   - ● Do not allow anyone to touch the rivet feeder or the cable other than operators.
   - ● Keep any persons other than operators from the workplace.
8. Store the rivet feeder in good environment when it is not used.
   - ● Store it in dry condition. Keep it away from children.
9. Operate the rivet feeder with adequate capability.
   - ● Operate it with adequate speed for more safety and efficiency.
10. Operators must wear adequate clothes.
   - ● Voluminous clothes and accessory like neckless may get caught in the machine. Do not wear such items when using the machine.
   - ● Long hair must be covered by a cap or a hair cover.
11. Handle the cable with care.
   - ● Do not pull the cable to move the rivet feeder, or do not pull the cable to unplug from the power source.
   - ● Keep the cable away from heat, oils or sharp edge.
12. Keep up the rivet feeder with care.
   - ● Maintenance such as oil filling and attachments replacement must be done according to this instruction manual.
   - ● In case of using an extension cable, check the cable periodically. If any damage is found, replace it with a new one.
13. Start up the rivet feeder with adequate process.
   - ● Do not cut power off while the switch is on.
   - ● Make sure that the switch is off before you put the plug to the power source.
14. Operate the rivet feeder with attention.
   - ● Operate the rivet feeder carefully paying attention to the handling method, the working method and the surrounding circumstances. Careless operation may cause an accident or an injury.
   - ● Outrageous actions may cause an accident or an injury.
15. Before using the rivet feeder, check any damage in each portion. If any damage is found, request the repair.
   - ● Before using the rivet feeder, check any damage in each portion carefully, and check if it operates normally and it fulfills its specified functions.
   - ● Do not use the rivet feeder if it cannot be started or stopped by the switch.
16. Repairing service must be done at LOBTEX Co., Ltd.
   - ● The rivet feeder complies with appropriate safety standard. Do not remodel it.
   - ● Be sure to request the repair to the sales representative you bought or to LOBTEX Co., Ltd. Repair by unauthorized agent may cause not only insufficient functions but also an accident or an injury.

PRODUCT SPECIFICATION

Model name	ARF700
Power source	AC100V 50/60Hz　AC110/115V 50/60Hz　AC220/230V 50/60Hz Appropriate power source is on the plate of main body.
Power consumption	60W
fuse	φ 5.2 × 20mm　250V(125V)/1.0~1.5A
Appropriate air pressure	0.5~0.6MPa
Air consumption per blind rivet at 0.6MPa	5.7 ℓ　(Operation time : 1sec.)
Usable rivet size (Collar diameter)	φ 3.2mm、φ 4.0mm、φ 4.8mm
Basket Capacity	2,000 rivets (φ 3.2mm) ; 1,500 rivets (φ 4.0mm) ; 1,000 rivets (φ 4.8mm)

Only the riveter with vacuum function is available.

The standard Feed Head hole is designed for φ 21 Frame Head. The size may custom order up to φ 23.



operation principle

Feeder (main body)

1. The Cam attached to the Motor makes Truck up and down to move rivets from the Basket to the Shoot, align them on the Shoot and send them to the entrance of the Escapement.
2. Signal sent from the Feed head activates electromagnetic valve to send air to the Escapement, make the Selector forward and send air to the Feed hose, and send a srandby rivet to the Feed head.
3. Signal sent from the Feed head cuts air to make the Selector backward, drop a rivet into the Feed hose and make the rivet standby condition.
4. Once light of Photoelectric sensor gets covered by rivets in a row, truck stops up-and-down movement. When rivet is gone and sensor gets subjected to light it will starts up-and-down movement again.

※. Repeat the above action 1 through 4 , to send rivets to the feed head.

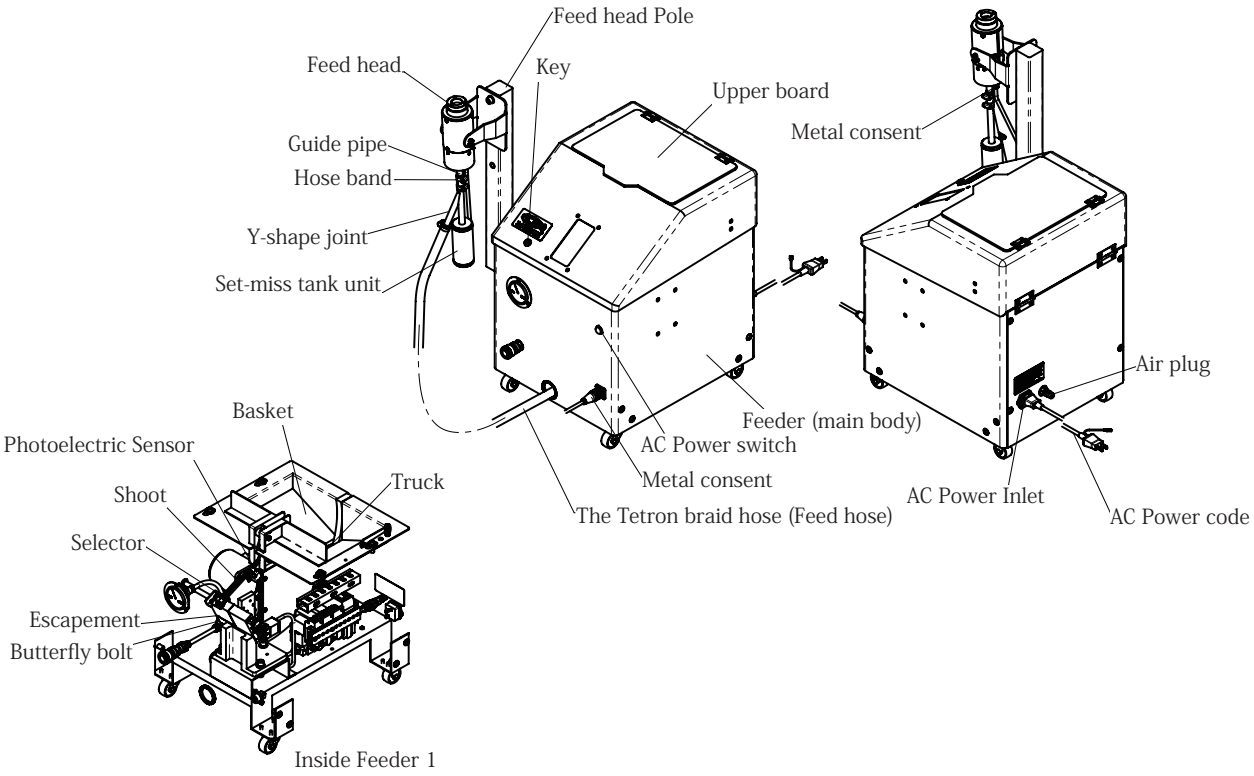
Feed head

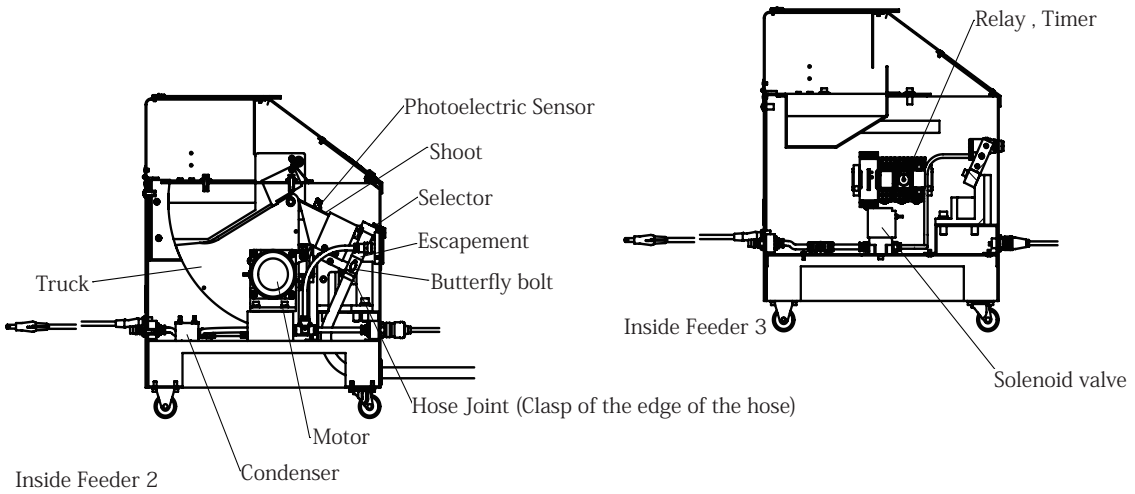
1. Inserting the frame head area of the rivet into the Feed head makes the switch on and sends the signal to the main body.
2. Several seconds later, a rivets is mounted to the nosepiece. After that, pulling out the riveter stop air.

Set-miss tank unit

1. In case that a rivet cannot be setup at the riveter, the rivet trips onto the tank and is stored in it.

nomenclature





PREPARATION BEFORE USE

1. Assemble Feed Head and set it up.
   a. Place the Set-miss tank unit to the Guide pipe of the Feed head unit and fasten it with a Hose band. Attach the Feed head pole or the working bench upward.
   (Note) Be sure to attach the Feed head unit upward. If it turns away, Set-miss tank cannot be used.

2. Connect Feeder and Feed Head by Hose and cable.
   a. Insert the Tetron braid hose (Feed hose) in Y-shape joint unit of the set-miss tank unit and fasten it with a Hose band.
   b. Open the upper side of the Feeder by using key.
   c. Pass the Hose joint in the other end of the Tetron braid hose(Feed hose) through the hole at the bottom of the front side of the Feeder, insert it to the hole at the bottom of the Escapement, and fi x it with a Butterfl y bolt.
   (Note) The length of the Tetron braid hose (Feed hose) must be shorter because it affects the feeding time.
   (Note) The bent hose at a steep angle may cause blocking up of rivets.
   d. Close the upper side of the Feeder and lock it.
   e. Connect the Feed Head Cable(metal outlet) to metal outlet of front side of the Feeder.

3. Connect the air source with the back side of the Feeder unit.
   a. Adjust the air pressure in the range of between 0.5 to 0.6 MPa. (Air pressure must be checked with the pressure gauge on the front face of the Feeder unit.)
   b. Use the Air coupler on the front face to supply air to the riveter.
   (Note) Air fi lter, air regulator and lubricator must be mounted to the air source. Missing of those devices may shorten the machine life. Connect the air source with the back side of the Feeder unit.

4. Insert the power plug to the power source.
   (Caution) Make sure to earth connection by using earth terminal of the plug.

▼ Vacuum mechanism must be incorporated in Riveter.
Further more, standard Feed Head applies to ϕ 21 Frame Head.
Ask nearest distributor when using different diameter Frame Head.

HOW TO USE

1. Open the acrylic cover (Upper board) on the top of the Feeder and put rivets in the basket. Do not put rivets more than specified capacity. Excess rivets may cause blocking up of rivets.

2. Turn on the switch on the front face of the Feeder and align rivets on the Shoot.

3. 3. Put in the riveter to Feed Head and push until rivets inserts to riveter. Air pressure will supply rivets to the riveter.
   (Note) First cycle of the operation feeds only air because a rivet is not standby at the bottom of the Escapement.
   (Note) In case that a rivet can not be setup at the riveter, the rivet drops into the Set-miss tank unit and is stored in it. Remove the rivets periodically.

4. Refill rivets before the remaining rivets in the basket go below 50 pcs to avoid slow feeding.
   (Caution) When rivets are not inside the basket and rivets does not line up in constant time, truck stops the up-and-down movement.
   Turn off the power button and take away the problem which is interrupting the rivets to line up. The time can be changed by adjusting the setting of the timer inside the Feeder.

TROUBLESHOOTING

Trouble	Cause	Countermeasure
The Truck does not move up and down when the switch is on.	The power plug is disconnected.	Connect the power plug securely.
	The Fuse is blown out.	Change Glass Fuse inside the Fuse Holder of inlet.
	The Capacitor is broken. (In this case, the Motor is groaning.)	Replace the Capacitor with a new one.
	Disconnection of the wire.	Replace the disconnected wire with a new one.
	A foreign substance intervenes between the Truck and the Basket.	Remove the substance.
Air does not flow when the riveter is inserted to the Feed head.	The air source is not connected with the Feeder (main body).	Connect the air source with the Plug on the back side of the Feeder (main body).
	The Fuse is blown out.	Change Glass Fuse inside the Fuse Holder of inlet.
	Change Glass Fuse inside the Fuse Holder of inlet.	Replace the switch with a new one.
	The ekectromagnetic valve inside of the Feeder.	Replace the electromagnetic valve with a new one.
	Relay for the sequence, timer is broken.	Change relay, timer.
Air flows, but the selector does not move when the riveter is inserted to the Feed head.	A foreign substance intervenes in the Selector.	Remove the substance.
	The Tetron braid hose (Feed hose) is folded down and rivets are blocked out in it.	Remove the blocked rivets in the Tetron braid hose (Feed hose).
	Air pressure is not enough.	Adjust the air pressure to the specified value.
Air flows and the Selector moves, but a rivet is not set at the riveter when the riveter is inserted to the Feed head.	Bend radius of the hose is not enough and rivets got stuck inside the hose.	Adjust the bend radius of the hose so the rivets can go through.
	Trucks of both Basket and Shoot are not in a straight line.	Adjust the misalignment so the rivets can go through.
	Rivets are blocked out in the Y-shape joint.	Disassemble the Y-shape joint and remove the blocked rivets in it.

Automatic Rivet Feeding System ARF700 set
Technical Manual Ver. G

Ver.G

This manual will show the information of consumable parts, parts to change the sizes and circuit etc.
When you could not find the information you need, contact the nearest Lobster distributor.
We may not be able to accommodate request from the customer by safety reasons.

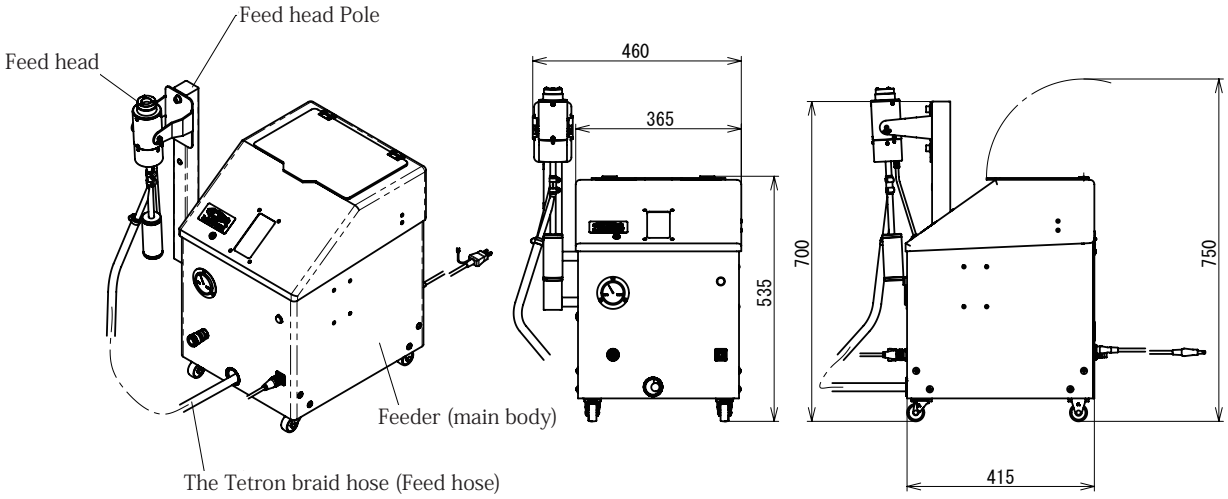
CONTENTS

・Refer to another booklet "Instruction Manual" for the usage.

ISO9001/ISO14001 **LOBTEX Co.,Ltd.**
TEL +81-72-981-7466 FAX +81-72-981-9420
12-8 Shijo-cho, Higashi-osaka City, Osaka 579-8053 Japan
URL http://www.lobtex.co.jp/

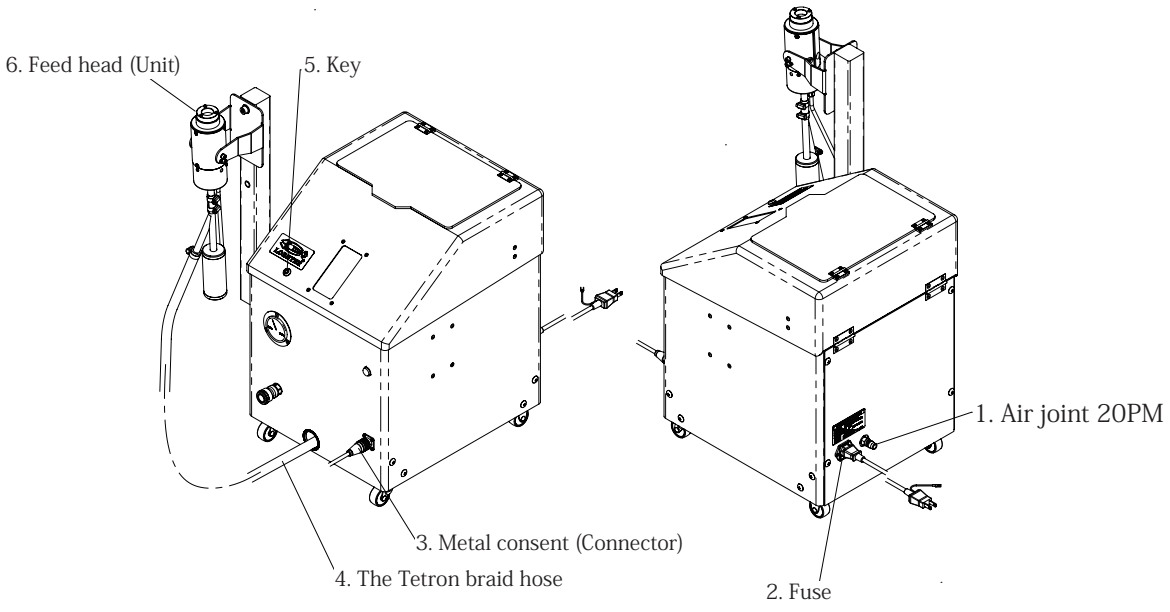
RY0700S01003

Composition and outer dimensions



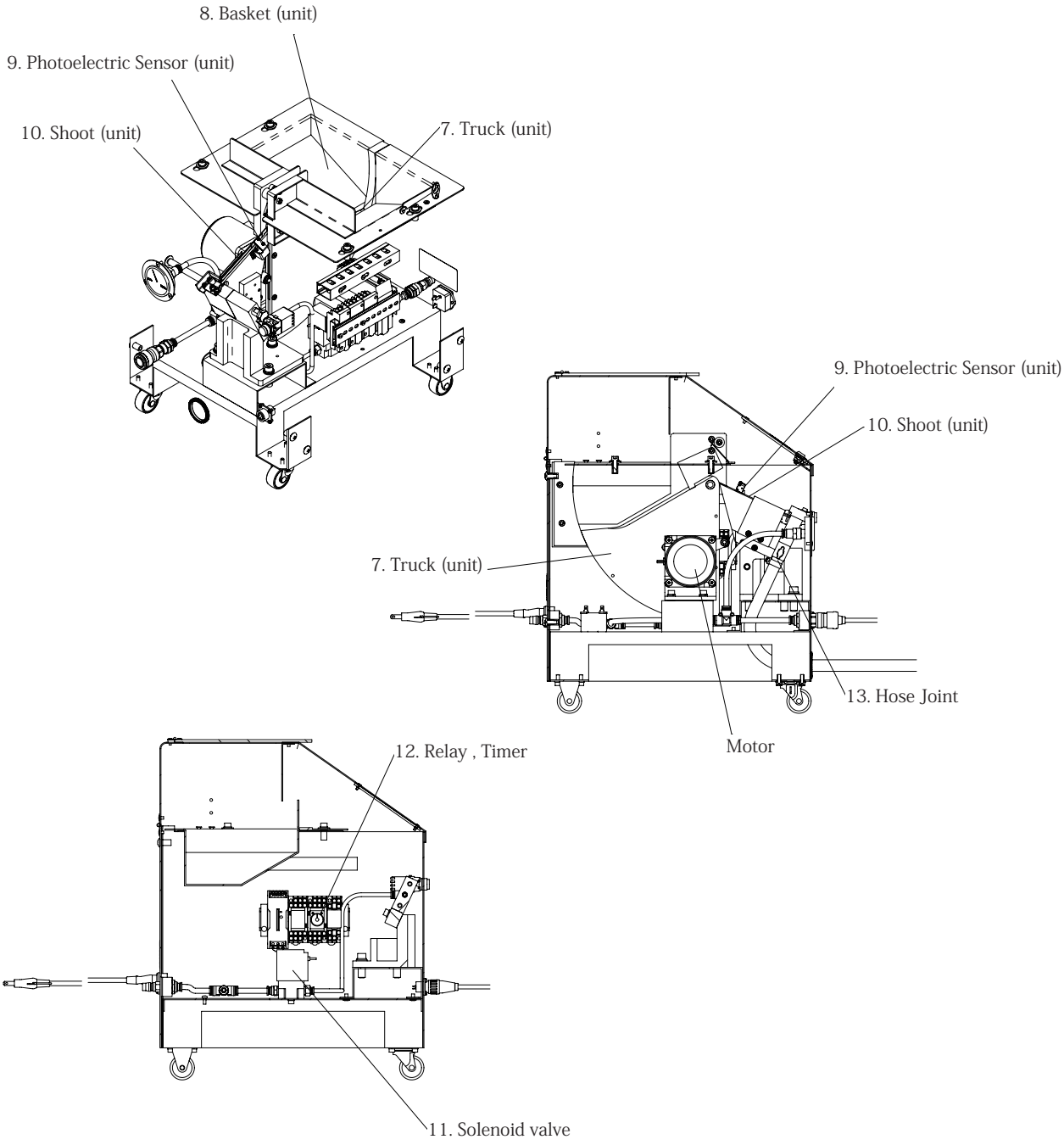
Part name and Part number

Index No.	Part name	Size etc.	Code No.
1	Air joint 20PM	---	20882
2	Fuse (1.0A)	---	67424
3	Metal consent (Connector)	Feeder side	67522
		Feed Head side	67484
4	The Tetron braid hose	4.8、4.0	18277
		3.2	20885
5	Key	---	67528
6	Feed head (Unit)	4.8	67491
		4.0	67490
		3.2	67489



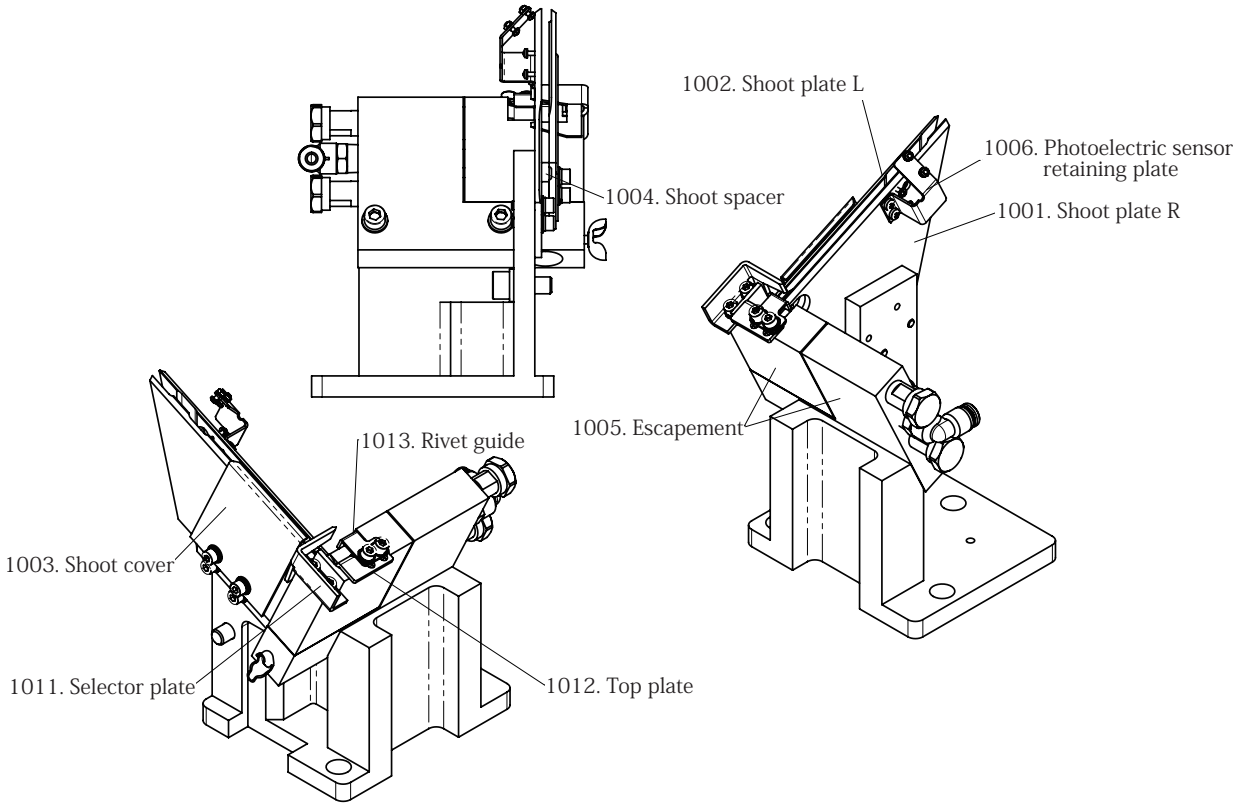
Inside Feeder spare parts of Shoot unit

Index No.	Part name	Size etc.	Code No.
7	Truck (unit)	4.8	25570
		4.0	25569
		3.2	25568
8	Basket (unit)	4.8	67497
	Truck is inside the Basket.	4.0	67496
		3.2	67495
9	Photoelectric Sensor (unit)	---	67542
10	Shoot (unit)	4.8	67516
		4.0	67515
		3.2	67514
11	Solenoid valve	---	67500
12	Relay , Timer	Refer to "Control circuit"	---
13	Hose Joint	4.8	18210
		4.0	18200
		3.2	18189



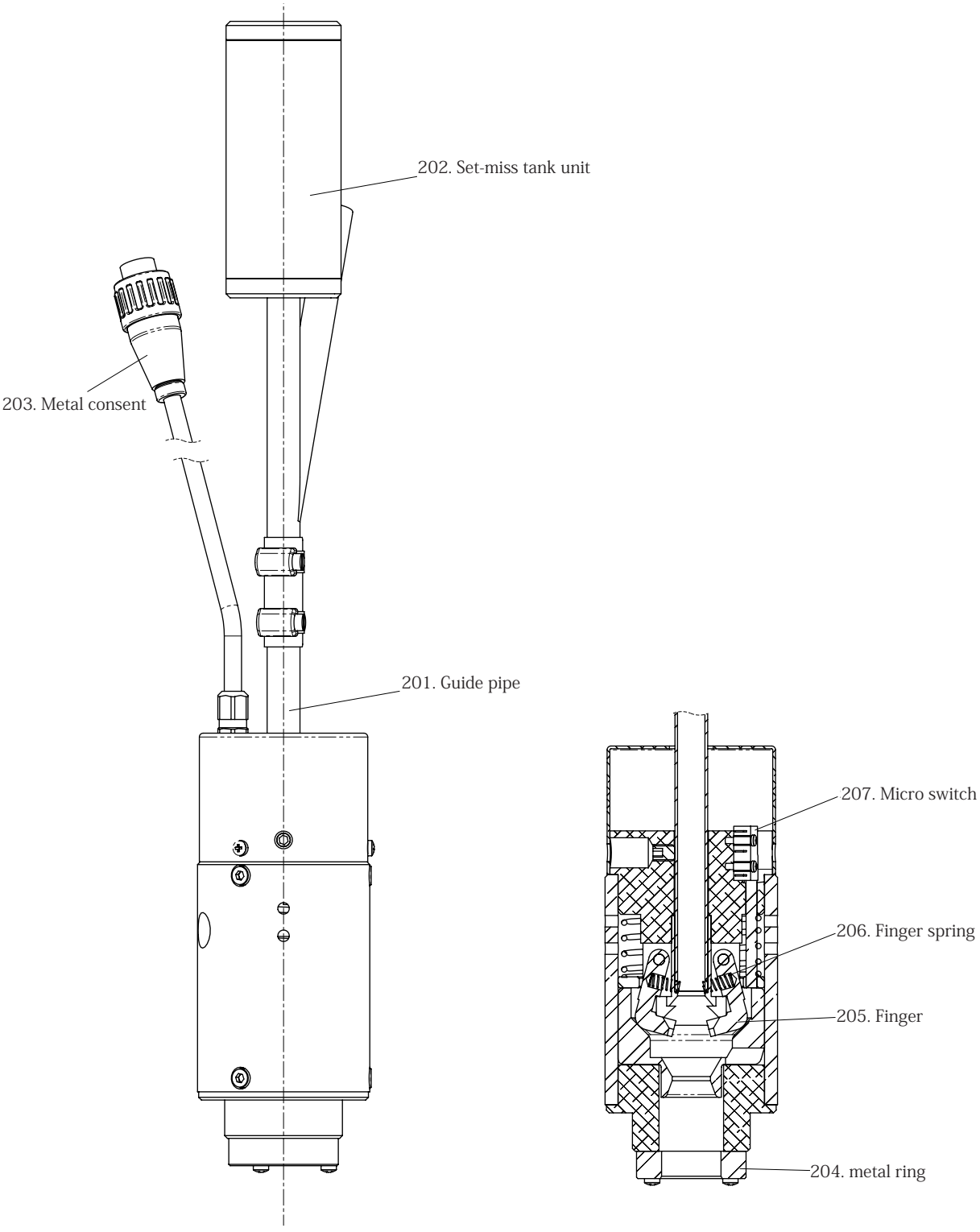
Inside Feeder spare parts of Shoot unit

Index No.	Part name	Size etc.	Code No.
1001	Shoot plate R	---	18171
1002	Shoot plate L	---	18170
1003	Shoot cover	---	18169
1004	Shoot spacer	4.8	18204
		4.0	18195
		3.2	18168
1005	Escapement (unit) 1011,1012,1013 is inside the Escapement.	4.8	20948
		4.0	20943
		3.2	20934
1006	Photoelectric sensor retaining plate	---	67513
1011	Selector plate	4.8	18209
		4.0	18199
		3.2	18182
1012	Top plate	---	18188
1013	Rivet guide	---	25572

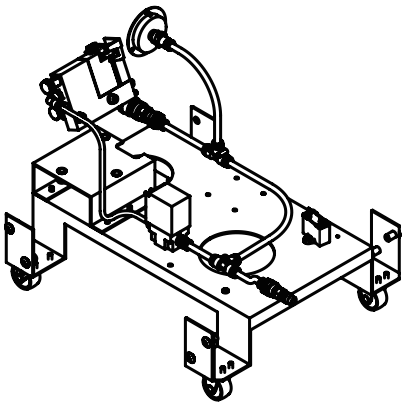


Feed head

Index No.	Part name	Size etc.	Code No.
201	Guide pipe	4.8	18202
		4.0	18193
		3.2	18150
202	Set-miss tank unit	---	20933
203	Metal consent (Connector)	---	67484
204	metal ring	---	67487
205	Finger	4.8	18203
		4.0	18194
		3.2	18151
206	Finger spring	---	20856
207	Micro switch	---	44570

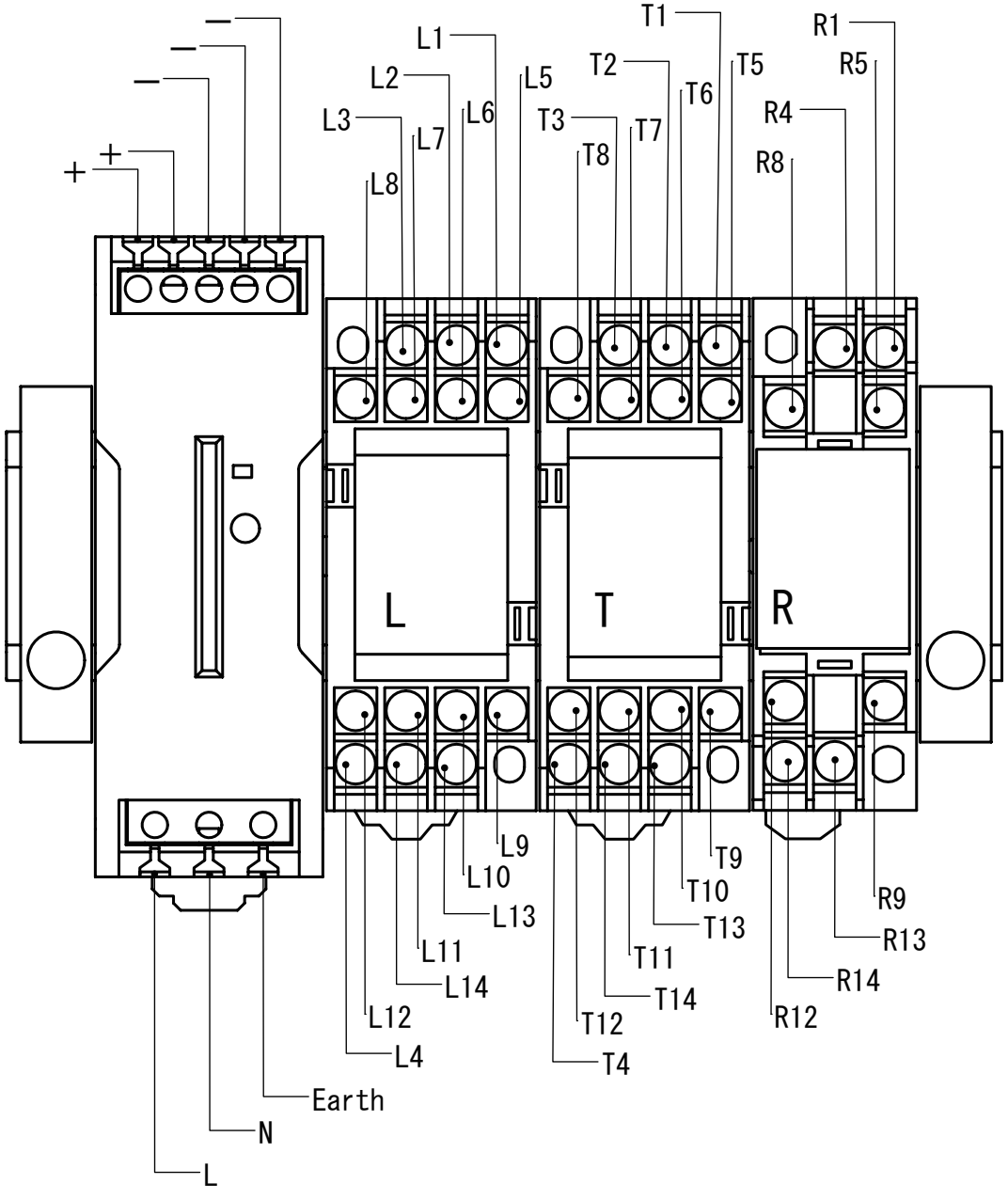


Air fitting

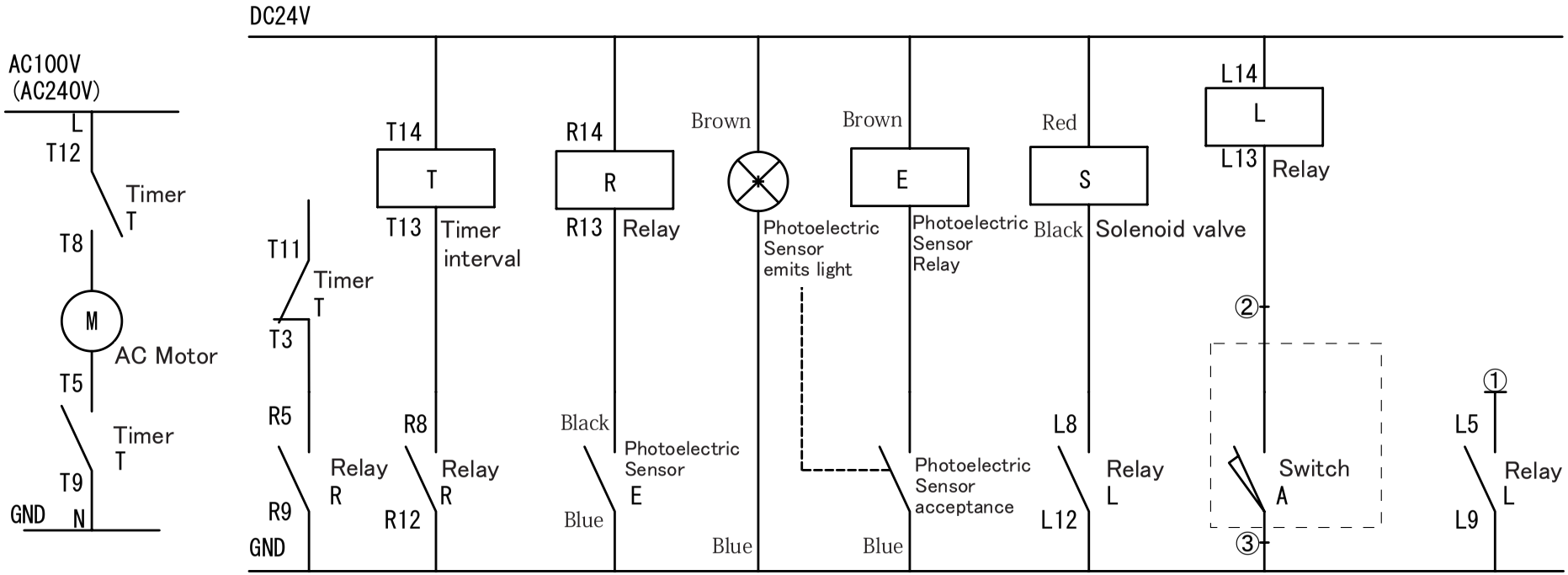


Control circuit

Relay, timer on the DIN rail



Sign	Part name
L	Relay MY4-D DC24V Omron
T	Timer H3YN-4 DC24V Omron
R	Relay MY2-D DC24V Omron
E	Photoelectric Sensor EX-13A Panasonic
S	Solenoid valve FAB41-8-5-12C-3 CKD



Switch A is outer switch which is not inside the Feeder.
①②③ is Pin number of the connector.