

Operation and Service Manual

(3 Phasse/200V)

(1 Phasse/100V)

X30612A-B X50612A-B X30612B-B X50612B-B
X30812A-B X50812A-B X30812B-B X50812B-B
X30615A-B X50615A-B X30615B-B X50615B-B
X30815A-B X50815A-B X30815B-B X50815B-B

Read this manual carefully and understand completely before operating Lift Table. Keep filing this manual for future reference. If this copy is lost, please contact your local supplier for a replacement.

Explanation of Terms and Symbols



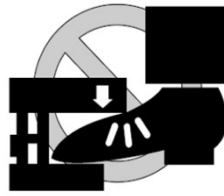
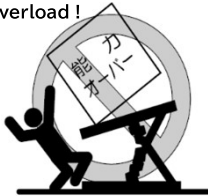



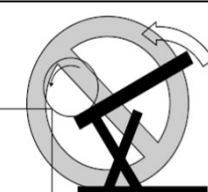
In this manual, 「Warning」, 「Caution」 are defined and specified as below. Notice of Warnings are very important for safe operations. As these are very Important to protect operators from accidents resulting in personal injury and death, and damage to property, so make sure to read thoroughly and understand fully before operation.

Warning Incorrect operation may result in serious injury or death of the operator.

Caution Incorrect operation may result in injury and damage to the property.
The occurrence of the danger is lower than "Warning" articles.

! Warning !

© Hazard or unsafe practice which, if not avoided, may result in DEATH or SEVERE PERSONAL INJURY and PROPERTY DAMAGE.

| | | | |
|---|--|--|---|
|  |  |  |  |
| NEVER sit, stand or ride on table SEVERE PERSONAL INJURY or DEATH could result. | NEVER go under raised lift table until load is removed and scissor mechanism is securely blocked. SEVERE PERSONAL INJURY could result. | KEEP FEET CLEAR of under table that could result in SEVERE PERSONAL INJURY. | DO NOT overload lift table. ALWAYS stay within designated capacity and put load in center of table. |
|  |  |  |  |
| DO NOT double stack lift table. | DO NOT modify the lift table. DO NOT install large steel plate to expand table size, or install big size conveyor which could result in unbalanced load and may cause overturning lift table. SEVERE PERSONAL INJURY could result. | DO NOT put hand near Scissor mechanism or other moving parts. SEVERE PERSONAL INJURY could result. | If the load is transferred onto lift table top from conveyor etc., it may create excessive unbalance of load and lift table could be overturned. For such application, consult with Bishamon. |

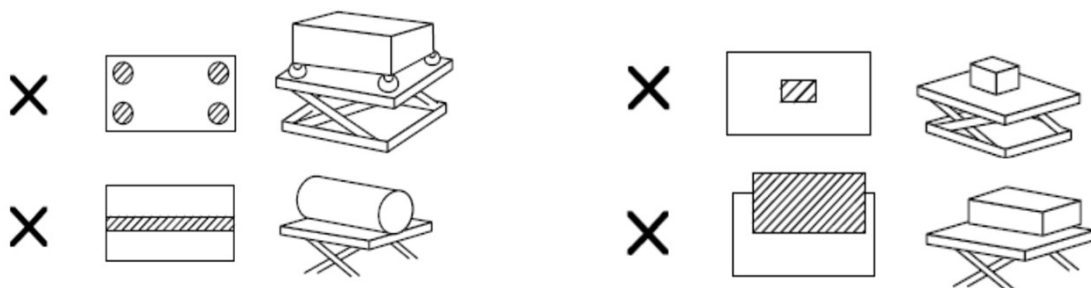
1. Warning and Cautions

⚠ Warning and Cautions !

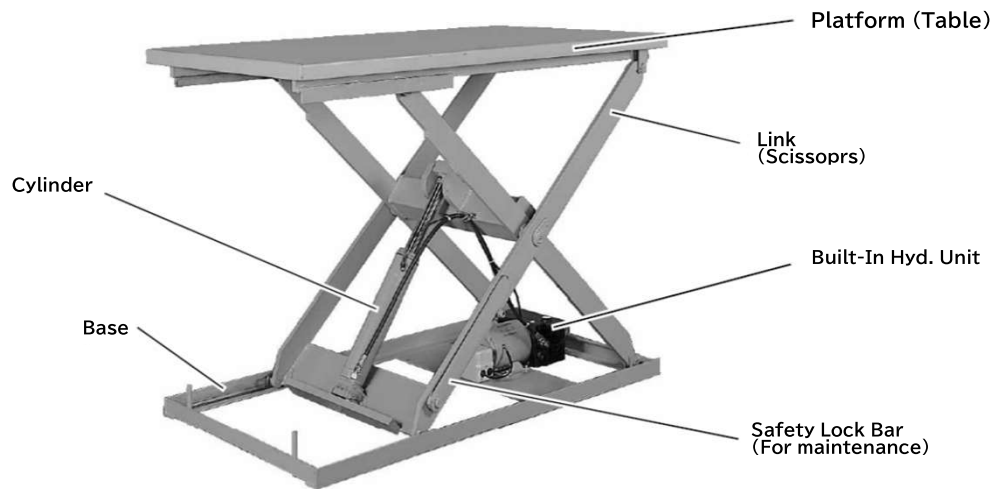
⊙ Hazard or unsafe practice which, if not avoided, may result in MINOR or MODERATE PERSONAL INJURY and PROPERTY DAMAGE.

1. READ THIS OPERATION MANUAL COMPLETELY BEFORE USING AND THOROUGHLY UNDERSTAND AND FOLLOW ALL SAFETY INSTRUCTIONS. Wrongful use may result in accident.
2. This Lift Table (**Lift**) is designed for use with stable, uniformly distributed loads on a solid level floor. **DO NOT** use the Lift for any other purpose than its intended use.
3. Distribute the load evenly on the platform surface. **DO NOT** concentrate the load on the edge or the side of the platform unless the Lift is fully lowered position. Put the load evenly on more than 80% surface of the platform. Unbalanced load could damage the Lift and reduce the lift life.
4. This Lift is not designed for high frequency or high speed use applications.
5. This Lift Table shall be operated by **TRAINED** personnel only. **OPERATOR** shall read "Operation Manual" completely and thoroughly understand the controls and operation of this equipment BEFORE operating the Lift.
6. **DO NOT** use the lift with an unstable, unbalanced or loosely stacked load. Unbalanced loads may become unstable and fall. **SEVERE PERSONAL INJURY AND PROPERTY DAMAGE** could result.
7. Perform periodic inspection according to instructions of this manual.
8. **DO NOT** install the Lift on an unlevel or soft surface. The Lift base frame must be supported along its entire length. Failure to completely support base frame could result in damage to the Lift.
9. **DO NOT** overload the Lift. Always stay within designated capacity. Overloading the Lift could cause the load to suddenly fall. **SEVERE PERSONAL INJURY AND PROPERTY DAMAGE** could result.
10. **Keep** clear of all moving parts. **NEVER** put hands or feet in or near all moving parts of the Lift. **SEVERE PERSONAL INJURY** could result.
11. **NEVER** put feet or hands under the platform when raising or lowering the Lift. **SEVERE PERSONAL INJURY** could result.
12. **NEVER** go under the raised Lift platform until the load is removed and scissor mechanism is securely blocked in the open position. **SEVERE PERSONAL INJURY** could result.
13. **NEVER** place any load on the platform while the scissor mechanism is blocked in the open position.
14. **NEVER** sit, stand or ride on the Lift platform. **NEVER** allow another person to sit, stand or ride on the Lift platform. Moving components could cause loss of balance. **SEVERE PERSONAL INJURY** could result.
15. **NEVER** leave the loaded Lift unattended unless the Lift is in the fully lowered position.
16. **ALWAYS** remove the load before servicing the Lift.
17. **ALWAYS** disconnect the power cable before servicing the Lift.
18. Any service done on the power unit should be performed by a qualified electrician.

※ Unbalanced Load means the concentrated load on localized or platform edge area as below.



2. Name of Components



3. Installation of Lift Table

| ! Warning ! | |
|---|---|
| | |
| DO NOT install the Lift Table on an unlevel surface. Overturn of the Lift or damage to the Lift could result. | DO NOT hoist up platform of the Lift when moving location. Hoist up base frame for moving |

| ! Caution |
|---|
| <ol style="list-style-type: none"> 1. Install the Lift so that there should be no gap between base and floor to avoid bent of base and frame. 2. Electric power cable should be less than 10m and more than 2 square mm cable should be used. 3. Temperature of installation site should be over 0°C but less than 30°C 4. The Lift is not water proof nor for outside use model. Install inside building. 5. The Lift is not designed for the use with powder dust environment. |

1. Make sure the installation floor is flat, and can bear the Lift weight and max load.
2. Make sure there is no gap between base and floor. If there is gap, Lift base could be bent and platform (table) could be tilted. If there is gap, fill the gap with shims etc.
3. If motor runs but Lift does not rise, there is possibility of reverse rotating of motor. If so, replace R with T.
4. It is recommended to fix Lift Table on floor by Anchor Bolt. There are holes in the base for installing Anchor Bolts ($\Phi 16 \times 1$ ea., $\Phi 10 \times 2$ ea.)

4. Pre-Operation Checks

Perform the Pre-Operation checks before operating everyday.

⚠ Caution !

If it is necessary to go under the raised Lift platform for repair or servicing the Lift, make sure to remove the load off the lift table, and the scissor mechanism is securely blocked in the open position.

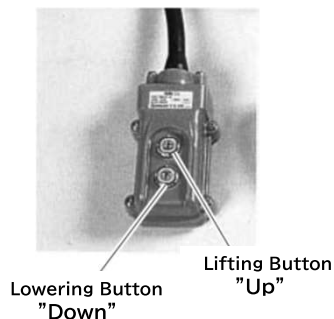
1. Any damage, distortion or crack in the Lift frame ?
2. Any obstacles inside the Lift ?
3. Does platform rise to the max height as per specification ?
4. Any oil leak from hydraulic line, cylinder or pump unit ?
5. Any abnormality in electric circuit ? Is operation smooth ?
6. Any abnormal wear in sliding portion ?
7. Any abnormal noise from Lift unit, Motor or pump ?
8. Fastening of bolts and nuts
9. Is there any dirt or obstacles at the driving portions of rollers ?

⚠ Caution !

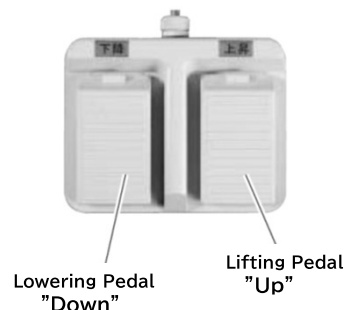
- If dirt or obstacles etc. at driving portions are built up (piled up) and obstructing the driving of the rollers, damage to the Lift unit could result.
- If it is necessary to go under table, make sure to remove load off the table top and set the Safety Lock Bar before go under table.

5. Operation

Push Button Switch
(Standard)



Foot Switch
(Option)



The Lift can be lifted and lowered by Push Button Switch (or by Foot Switch).

⚠ Warning !

Never put hands or feet in or near scissor mechanism and all moving parts of the Lift. SEVERE PERSONAL INJURY could result.

5-1 Lifting Operation of the Lift

⚠ Warning !

DO NOT overload lift table. Max capacity is X03 Series - 300 kgs. and X05 Series - 500 kgs.

Press the "Up" push button, or depress the foot pedal marked "Up" and raise the platform to a convenient working height. The Lift does not stop when platform reach the max height. Stop operating the Lift when platform reached max height.

⚠ Caution !

- Platform is supported by hydraulic and lowers slightly (drift) as natural lowering.
- DO NOT continue to operate the pump if a squealing noise is heard coming from pump.

5-2 Lowering Operation of the Lift

! Warning !

Never put hands or feet under the platform when raising or lowering the Lift.
SEVERE PERSONAL INJURY could result.



Press the "Down" push button, or depress the foot pedal marked "Down" and lower the platform to a convenient working height. The Lift does not stop when platform reach the floor. Stop operating the Lift when platform reached floor.

Explanation

- If "Up" button and "Down" button are pressed at same time, first pressed takes priority.
- If "Up" and "Down" Foot Switch are depressed at same time, "Up" pedal switch takes priority.

5-3 Loading / Unloading the Lift Platform

! Warning !

- **DO NOT overload the lift table. Always stay within the designated capacity ratings.**
 - **DO NOT concentrate the load at one point on the pallet or platform. Always uniformly distribute each layer of load over the supporting surface.**
 - **DO NOT use the lift table with an unstable, unbalanced or loosely stacked load.**
 - **DO NOT modify lift table such as enlarging platform, installing big size conveyor etc.**
- ⇒ **Overturn of lift table and SEVERE PERSONAL INJURY** could result.

1. Check the load or component weight to ensure the total load does not exceed the capacity of the Lift. Refer to the capacity label on the Lift platform.
2. Uniformly distribute the load over more than 80% surface of the platform or supporting surface and ensure the load is tightly stacked.
3. DO NOT drop the load on the platform with impact.

5-4 Recommended Cycle Time (Interval) for Next Lifting Operation

What is Cycle Time (Interval) ? :

The time between beginning of raising lift table and the next raising operation.

It is recommended more than 3 minutes cycle time for 200V unit, and
more than 10 minutes cycle time for 100V unit

Mini X Series do not use continuous rating motor. Follow the recommended Cycle Time (Interval) before restarting.

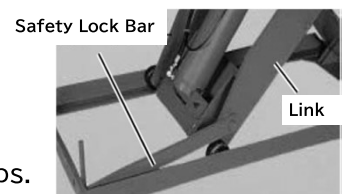
5-5 Safety Lock Bar

The Lift has Safety Lock Bar equipped to go under lift table for maintenance servicing etc. Make sure to set the Safety Lock Bar before going under the lift table.

If Upper Limit Switch is installed for modification, it is possible Safety Lock Bar could interfere Upper Limit Switch depending on the height. In such case, remove Upper Limit Switch so that Lift can reach to max height.

How To Use Safety Lock Bar

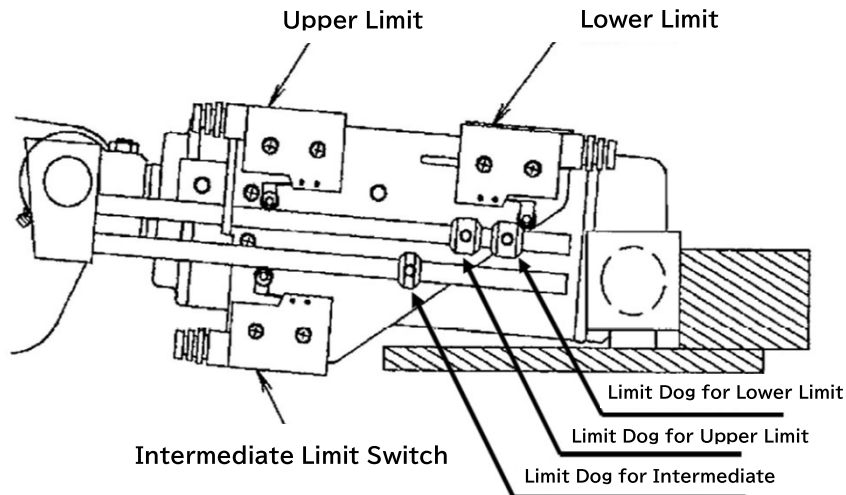
1. Remove load off the table top
2. Raise the lift to max height
3. Rotate Safety Lock Bar to reach base
4. Lower the lift and check if Safety Lock Bar hit base end and lift stops.
5. After maintenance servicing etc., raise the lift and return Safety Lock Bar.



6. Modification (Officially Modified Unit)

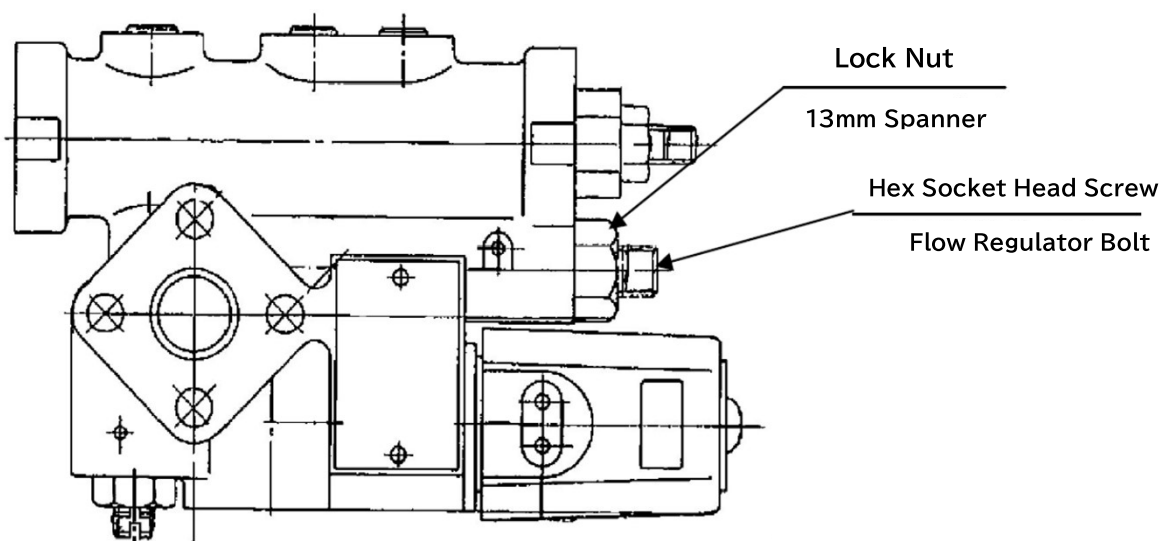
6-1. Install and Adjust Upper Limit·Middle Limit·Lower Limit Switch

- Setting of Stop Position can be adjusted by moving Limit Dog on the shaft.
- For Self-Holding with Intermediate-Stop type switch, keep pushing Push Button for 1 second when operate from intermediate stop.



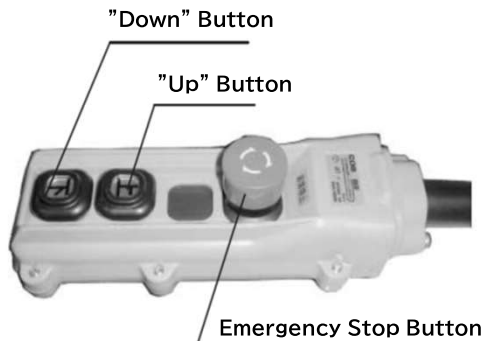
6-2. Adjust Lifting Speed and Lowering Speed of V2078 Lowering Valve

1. Unfasten Nut by 13mm Spanner
2. Rotate Hex Socket Head Screw (5mm)
 - Clockwise → Speed becomes slower
 - Counter-Clockwise → Speed becomes faster
3. Fasten Hex Nut so that Hex Socket Head Screw would not rotate

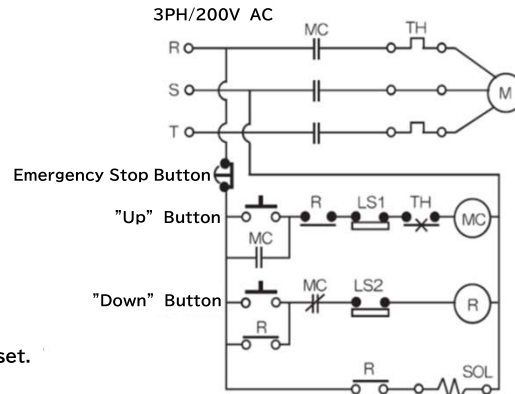


6-2. Self-Holding 3 Points Push Button Switch

- Once pushing "UP" or "Down" switch, lift rise upto Upper Limit position, or lift lowers down to Lower Limit position automatically. If you want to stop in midway, or in case of emergency, push "Emergency Stop Switch" to stop instantly.
- If "Up" and "Down" Switch are pressed at same time, first pressed takes priority.



※ Push to Stop. Rotate clockwise to reset.



6-3. Rotating Platform

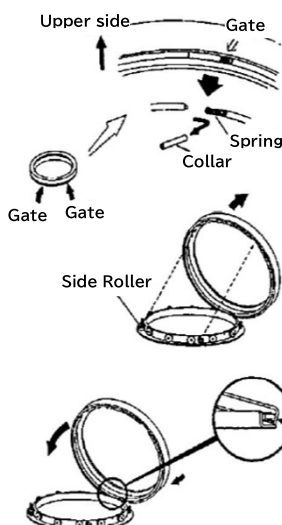


Rotating Platform can be rotated by hands for any direction, and can be stopped at any position.

⚠ Caution

1. DO NOT sit, stand or ride on Platform to avoid accidents by tumbling down.
2. Platform is designed for taking thrust load, not radial load.
3. DO NOT concentrate the load on the edge or the side of the platform. Use sturdy pallet on the platform.
4. The load need to stay within platform.
5. The platform is designed for manual rotating use only. DO NOT use any power driven device for rotating platform.
5. Pay attention lest hands and fingers should be pinched when rotating platform.

【 How to Disassemble and Assemble Platform 】



■ How to Disassemble

- ① Remove collar from Gate (2 places) on the top lace.
(Be careful not to lose Spring)
- ② Match the gate gap to Side Roller, and pull up top lace.

■ How to Assemble back

- ① Keep top lace as per left, and hook gate at front side and hook other side to Side Roller.
- ② Fit top lace accordingly and assemble back Spring and Collar as they were.

【 Maintenance 】

Disassemble every half year, and lubricate versatile grease to inside bearing.

7. Regular Inspection and Maintenance

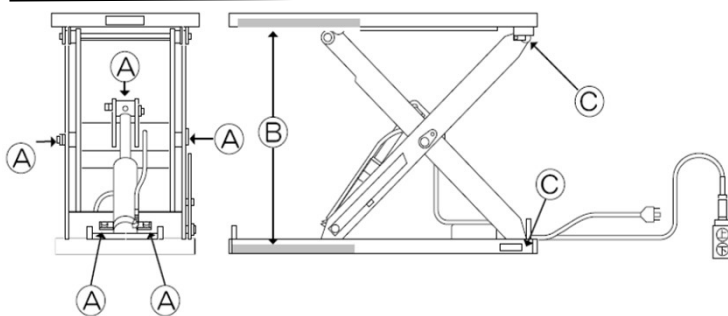
⚠ Warning !

If it is necessary to go under the raised Lift platform for inspection or servicing the Lift, make sure to remove the load and set Safety Lock Bar.

Be sure to perform the regular inspection at least once a month in addition to pre-operation check which is performed everyday in order to ensure that Lift can be used safely. All service should be performed by a qualified service person who has an understanding of lift equipment and hydraulic diagrams. This person should be thoroughly familiar with the operation and use of this type of equipment. Or it is recommended to ask the lift supplier to perform the services.

| Inspection Spot | Inspection Point | Inspection Period |
|---------------------------------------|---|---|
| Lubrication | Lubricate the designated points | Monthly |
| Replace Oil | Replace all oil in the oil tank | 3 months after installation then every year |
| Natural Lowering | Check natural lowering with fully loaded (should be less than 0.2mm/minute) | Every 6 months |
| Damage on the Lift | Check wear or distortion through Lift unit (Check welding especially) | Every 6 months |
| Shaft and Bearing Device of Lift unit | Check the wear of Shaft and Bearing Device of Lift unit | Every 6 months |
| Hyd. Hose | Check wear and damage from twist etc. It is recommended to replace hyd. Hose every 2 years as hyd. hose wear from stress in lifting and lowering. | Every 2 years |

7-1 Lubricating Points



Ⓐ Inject grease to grease fittings

Ⓑ Apply grease

Ⓒ Apply spray grease

※ Use lithium grease

7-2 Hydraulic Oil to be used and Required Oil Volume

ISO VG32

1.3L (1PH/100V Model)

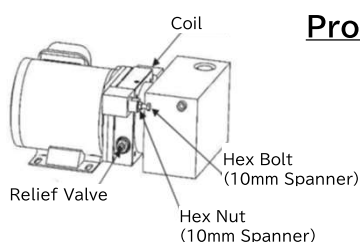
1.0L (3PH/200V Model)

8. Adjustment of Lowering Speed

⚠ Warning

- Lowering Speed is already adjusted and set at factory with specified load. It is not recommended to change the lowering speed faster which could be danger.
- Changing lowering speed without load could result in faster speed when loaded and could be danger.
- DO NOT adjust Relief Valve for safe use. If nut is loosened, oil could be leaking.

Lowering speed can be adjusted through following procedure. Be noted that lowering speed could be varied depending on the temperature (The colder, the slower).

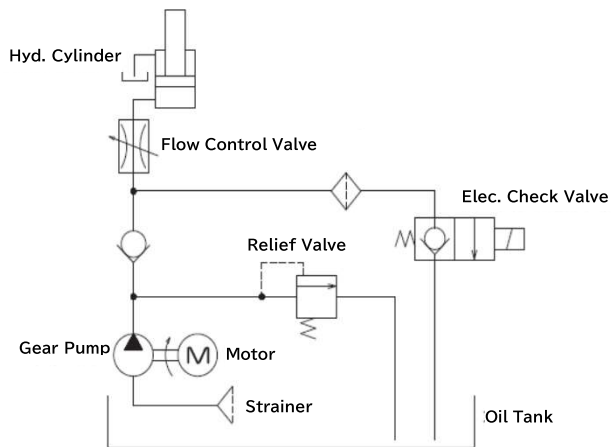


Procedure

1. Unfasten Hex Nut with 10mm spanner
2. Rotate Hex Bolt with 10mm spanner to adjust speed
 - Clockwise → Speed become faster
 - Counterclockwise → Speed become slower
3. Hold Hex Bolt with 10mm spanner, and fasten Hex Nut with 10mm spanner.

9. Circuit Diagram

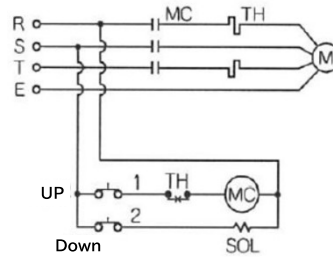
【 Hydraulic Circuit 】



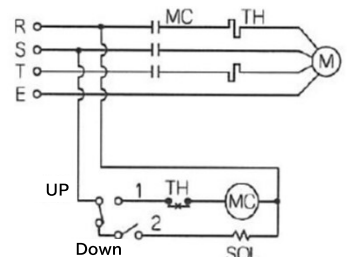
【 Electric Circuit 】

3PH/200V

Push Button

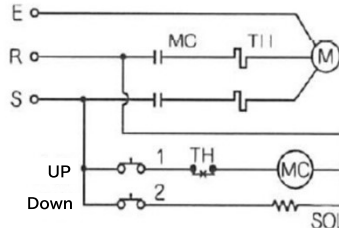


Foot Switch (Option)

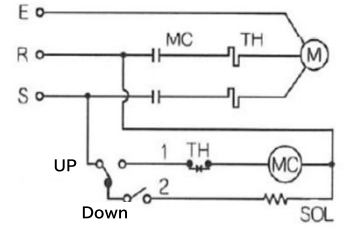


1PH/100V

Push Button



Foot Switch (Option)



10. Specifications

| Model No. | Capacity | Vertical Travel | Table Size (mm) | | Table Height (mm) | | Motor | Rising Speed (Seconds) | | Machine Weight(Kg) | | Power Unit |
|---------------------|----------|-----------------|-----------------|--------|-------------------|------------|---------|------------------------|------|--------------------|-----------|------------|
| | (Kg) | (mm) | Width | Length | Min. Height | Max Height | | (KW) | 50Hz | 60Hz | Lift Unit | |
| 3Ph/200V (380~415V) | | | | | | | | | | | | |
| X030612A-B | 300 | 800 | 600 | 1,200 | 150 | 950 | 0.375KW | 16 | 14 | 166 | Built-In | Built-In |
| X030812A-B | | | 800 | | | | | | | 191 | | |
| X030615A-B | | 1,000 | 600 | 1,500 | | 1,150 | | 20 | 17 | 186 | | |
| X030815A-B | | | 800 | | | | | | | 196 | | |
| X050612A-B | 500 | 800 | 600 | 1,200 | | 950 | | 28 | 24 | 168 | | |
| X050812A-B | | | 800 | | | | | | | 193 | | |
| X050615A-B | | 1,000 | 600 | 1,500 | | 1,150 | | 37 | 31 | 190 | | |
| X050815A-B | | | 800 | | | | | | | 200 | | |
| 1Ph/100V (115V) | | | | | | | | | | | | |
| X030612B-B | 300 | 800 | 600 | 1,200 | 150 | 950 | 0.4KW | 19 | 16 | 161 | Built-In | Built-In |
| X030812B-B | | | 800 | | | | | | | 186 | | |
| X030615B-B | | 1,000 | 600 | 1,500 | | 1,150 | | 25 | 21 | 181 | | |
| X030815B-B | | | 800 | | | | | | | 191 | | |
| X050612B-B | 500 | 800 | 600 | 1,200 | | 950 | | 31 | 26 | 163 | | |
| X050812B-B | | | 800 | | | | | | | 188 | | |
| X050615B-B | | 1,000 | 600 | 1,500 | | 1,150 | | 43 | 36 | 185 | | |
| X050815B-B | | | 800 | | | | | | | 195 | | |

11. Troubleshooting

The below chart show how to deal with relatively minor malfunctions. For other further issues, please contact your supplier of this Lift Table.

| Symptoms of malfunction | Possible Cause | | Action |
|-----------------------------------|---|--|---|
| Lift DOES NOT rise | Electricity (3PH/200V Model) | • Motor is running reverse | → Replace R & T |
| | | • Motor is running on 1 Phase | → Check the phase of power |
| | Electricity | • Motor does not run | → Check broken wiring, or replace wiring |
| | | | → Check Magnet Contactor, or replace |
| | | | → Check Remote Control Switch, or replace |
| | | • Contact failure of Magnet Contactor | → Replace Magnet Contactor |
| Valves | • There are foreign articles in Lifting Valve and Lowering is always open | → Remove foreign articles, or replace valve | |
| Hyd. Oil | • Insufficient oil in the oil reservoir | → Fill the oil | |
| Lifting speed is slow | Pump | • Not enough discharge due to worn gear | → Replace pump |
| | Motor | • Motor does not provide normal power | → Check voltage, or replace motor |
| | Strainer | • Strainer is clogged | → Clean up Strainer, or replace oil |
| | Cylinder | • Oil leak due to wear of Cylinder seals | → Repair Cylinder (Replace seals) |
| | | | |
| Lift DOES NOT lower | Electricity | • Broken or contact failure of Lifting Valve wiring | → Check wiring and repair |
| | Lifting Valve | • Lifting Valve does not open | → Overhaul valve, or replace valve |
| | Lift Unit | • There are foreign obstacles on Guide Roller rail | → Remove foreign obstacles |
| Lowering speed is slow | Lifting Valve | • Filter of inside valve is clogged | → Clean up filter, or replace lowering valve |
| | | • Malfunction of spool of inside valve | → Repeat Lifting & Lowering Operation If spool is defective, replace valve |
| | Lowering Valve | • Flow adjustment of Lowering Valve is not appropriate | → Adjust lowering speed |
| Lowering speed is too fast | Lowering Valve | • Flow adjustment of Lowering Valve is not appropriate | → Adjust lowering speed |
| Natural Lowering after stop | Cylinder | • Oil leak due to wear of Cylinder seals | → Repair Cylinder (Replace seals) |
| | Hyd. Piping Fitting | • Oil leak from Hyd. Hose, valve etc. | → Fasten the fittings |
| | Check Valve | • Foreign articles in Check Valve | → Remove foreign articles inside Check Valve |
| | | • Inferior seating of Check Valve | → Replace Check Valve |
| | Lifting Valve | • There is foreign articles at valve spool | → Remove foreign articles inside valve |
| | | • Malfunction of spool of inside valve | → Replace Lowering Valve |
| Noise during Lifting and Lowering | Lift Unit | • Lack of lubrication for pin and holes | → Lubrication (grease up) |
| | | • Wear of bushing and pins | → Replace bushing and pins |

12. Product Warranty Conditions

Warranty

Should the unit malfunction within the warranty period (Within one (1) year of purchase) when it has been operated in accordance with the user manual and the warning labels on the unit, we will adjust the defective component, repair it, or send a replacement part free of charge. However, this does not apply in the case of secondary damage or any damage to which any of the following apply :

- (1) Damage or injury resulting from incorrect operation, improper inspection, improper storage, or any other type of negligence
- (2) Damage or injuries resulting from changes (modifications) that negatively impact the product's operation mechanism
- (3) Consumable parts that are damaged and need to be replaced
- (4) Damage or injury resulting from fires, earthquakes, wind, floods, or other natural disasters or external factors
- (5) Problem resulting from specified parts not being used
- (6) Error in the warranty claim process (Ex: failure to indicate Model or Serial No. etc.)
- (7) Damage or injury resulting from installation
- (8) Repairs performed not by our company or not by our authorized dealer
- (9) Damage confirmed to be the result of overuse, user error, or accident

Furthermore, all rubber components and other naturally degradable products used in this products and its accessories, as well as all consumable products, fall outside the scope of this warranty.

This lift is not waterproof, so rust, corrosion, short circuits, and other damage caused by water is not covered under warranty.

How to Claim Warranty

If you decide to file claim for this product based on the above, please contact your supplier. The supplier will carry out the necessary procedures. In addition, we can not decide whether or not any particular situation falls within the scope of this warranty.

13. Disposal

When disposing of this Lift, dispose of the metal, non-metal, plastic, and hydraulic oil components separately. There are regulations for disposing of the hydraulic oil, so make sure to sort and follow the local rules. If you have any questions regarding disposal, please check with your supplier of the Lift.

14. After Sales Service

| | | |
|---------------------------------------|---|--|
| •Product does not work properly | → | Review the manual and try to find solution |
| •Product still does not work properly | → | Contact your supplier and request repairs |
| •Repairs within the warranty period | → | The warranty is valid one year from the date of purchase. We will service your product in accordance with warranty conditions. |
| •Repairs out of warranty period | → | Consult with your supplier |
| •Availability of Spare Parts | → | The spare parts are available for 8 years after discontinuing manufacturing |

Contact your Lift supplier for any information regarding after service.
When contacting your Lift supplier, provide following information.

- Model No.
- Serial No.
- Purchase Date
- Conditions of trouble

Record the above information in the table below for future inquiries.

| | |
|-----------------------------|--------|
| Type | |
| Serial No. | |
| Purchase Date | |
| Lift Supplier | |
| Installer | |
| Trouble Date and conditions | Date : |
| | Date : |
| | Date : |
| | Date : |

Bishamon



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