



INSTRUCTION MANUAL
FOR Air Balance Jib Lifter
MODELS COVERED:DSL-300 & DSL-300-P



VESTIL MANUFACTURING CORP.

2999 NORTH WAYNE STREET, P.O. BOX 507, ANGOLA, IN 46703

TELEPHONE: (260) 665-7586 -OR- TOLL FREE (800) 348-0868

FAX: (260) 665-1339

URL: WWW.VESTILMFG.COM EMAIL: SALES@VESTIL.COM

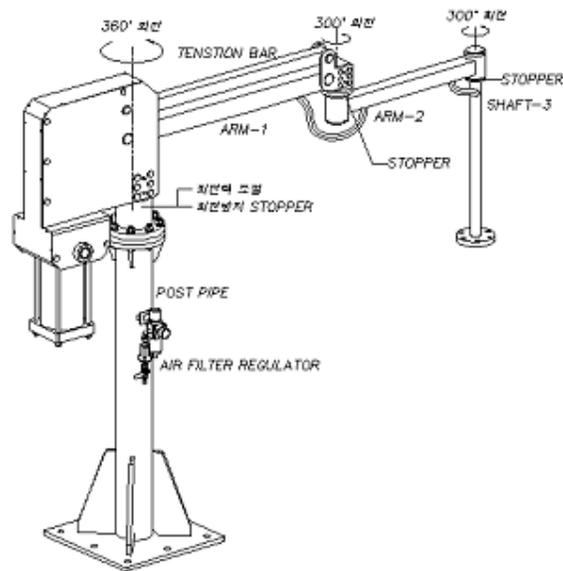
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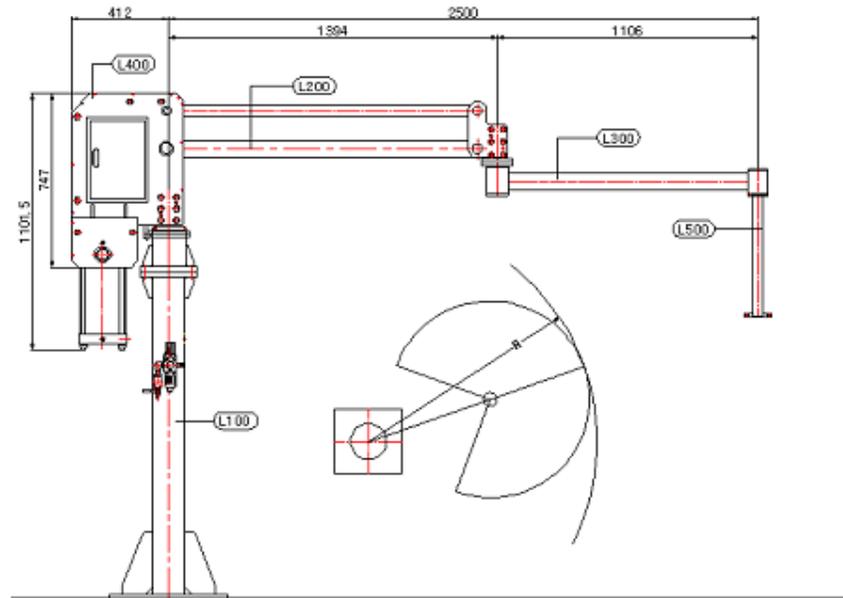
1. GENERALSPECIFICATION

1-1. OUT LINE

DSL-300 is lifting system which used air cylinder and have both function of lifting and floating. DSL-300 is system which used as it is air's rectified movements. While compressed air is supplied into the piston chamber, the pressure of chamber increases and lift up heavy goods. While chamber pressure is removed the object descends by its weight.



2. LAY-OUT



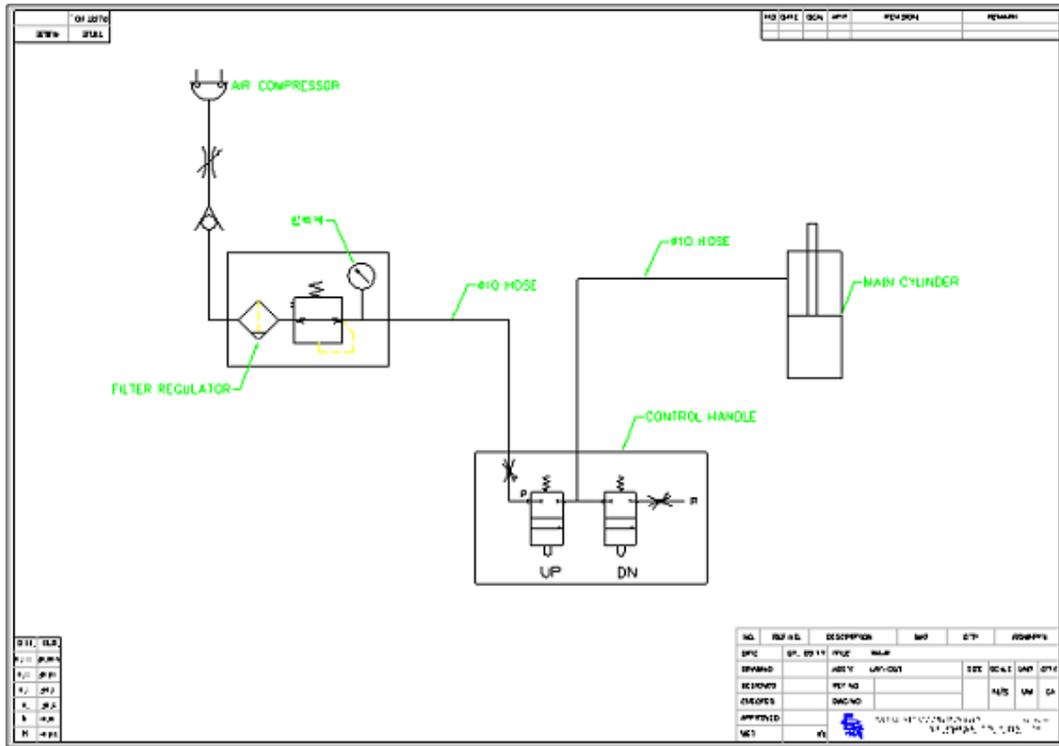
| NO | REF. NO | DESCRIPTION | REMARKS |
|----|---------|-----------------|---------|
| 1 | L100 | POST ASS'Y | |
| 2 | L200 | LIFT PIPE ASS'Y | |
| 3 | L300 | TURN PIPE ASS'Y | |
| 4 | L400 | BODY ASS'Y | |
| 5 | L500 | FLANGE | |

2-1. LIMITATION OF INSTALLATION

- The base plate(500mm × 500mm) is fixed by anchor bolt of -5/8'×150L
- Minimum Space & Aria: The minimum area is more than turning radius "R", but there is needed additional 1000mm space for actual working area with objects. The space will be differed by working condition and kinds of objects.

3. CIRCUIT DRAWING

3-1. DRAWING



4. OPERATION

4-1. How to operate

4-1-1. PURPOSE

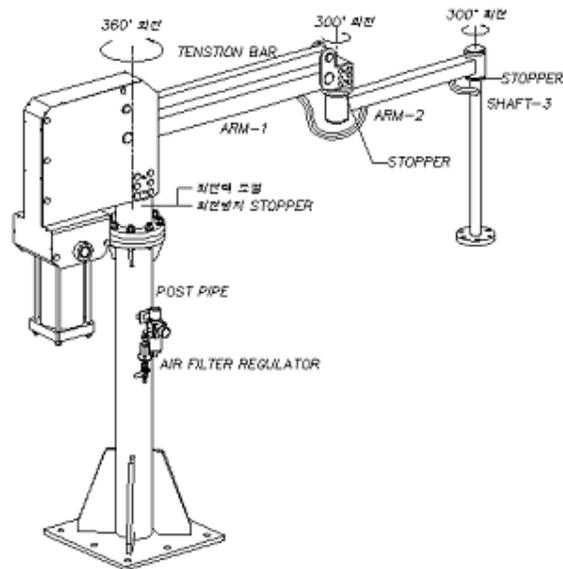
Air Balance DSL-300 with using compressed air is useful to more heavy goods very easy and quickly with minimum man power.

DSL-300 provides very efficient working circumstance that provides hosting and floating function.

4-1-2. Specification

| CHECK POINT | SPECIFICATION | CHECK POINT | SPECIFICATION |
|--------------|---------------|----------------|--------------------------|
| MODEL | DSL-300 | ROTATION ANGLE | 360° |
| MAX.PAY LOAD | 250 LBS. | COLOR | 4YR/7.2/13.2 (Yellow) |
| STROKE | 63" | AIR PRESSURE | 71.12lbf/in ² |
| ARM LENGTH | 98 ½" | WEIGHT | 450 lbs. |

4-1-3. STRUCTURE AND NAME OF EACH PART



1) AIR FILTER REGULATOR

The filter regulator makes un-stabilizing compressed air to proper air pressure and supplies it to the equipment.

2) POST PIPE

Post pipe is installed to the ground with anchor bolts. It supports the equipment as column and it work as air tank and the passage.

3) ARM-1

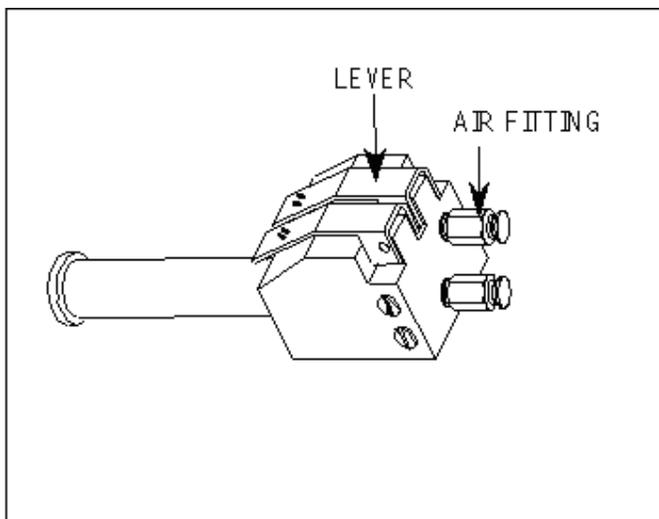
This is Lifting pipe and first step to transfer power of air cylinder, and the length effect to stroke and lifting capacity.

4) ARM-2

This work to transfer power of ARM-1, but do not effect at the stroke or capacity. It provides working space of radius from center of post.

5) CONTROL HANDLE

Control handle supplies compressed air to the air cylinder or discharges air from it and lifts up and lowers the work piece.



Sp-con-pin adjusts the air quantity of the outside so that it can prevent jumping phenomena which may be occurred by excessive pressure or light weight.

4-1-4. OPERATION

This equipment is operated (UP & down) by levers of control kit. The worker rotates arm with minimum man power so that he can move heavy goods very easily within a fixed space.

1) Check list before operation

- Air fitting part might be closely contacted.
- The weight might be hanged on the hook.
- The hook might be touched on the ground.
- Don't press the levers of control handle and check objects push the levers

2) Operation and control

- Open the valve and control the air pressure becomes 6kgf/cm²
- Hold control handle with right or left hand and operate the levers slowly with watching for hook's move.
- Hang the goods on the hook.



Do not lift up more than the specified max weight

- Hook moves up while "UP" level of control handle is pressed
- Hook moves down while "DN" lever of control handle is pressed.
- The speed of hook's up & down is controlled by rotating speed-control-pin on the side of control handle.
- The most important function which distinguishes between air balance hoist and electric hoists is "FLOATING". The worker can move heavy goods up and down very easily in any height with floating function.

4-2. MAINTENANCE & REPAIR

4-2-1. DISASSEMBLY & ASSEMBLY

- Disassembly and assembly might be safely done by order.
- Do not use it for other purposes and change the structure of equipment at user's pleasure.

4-2-2. BEFORE USING COMPRESSED AIR

- The minimum pressure which is necessary
- Make sure that hose nozzles in safe before you put compressed air. If the hose would be shaken by air leakage due to the nozzle is burst or OFF, this is very dangerous.

4-2-3. CAUTION

- Do not operate the equipment during maintenance & repair work.
- Put on safety shoes to prevent injury which may be occurred by sliding or falling during the weight in being moved.
- Do not stand below the weight hanging on the hook and within the limits of falling.
- The weight must be not connected directly to the hook.

4-2-4. INSPECTION TERM

1) Weekly check point

- Control-Handle
 - Leakage : Test the leakage with soap bubbles.
 - Damage: Watch for the piston pin pressed owing to the lever part damaged of adjustment screw of control pin is damaged.
 - Foreign substance: Watch for the foreign substance is struck into the lever piston parts of hose connection parts.
- Filter Regulator
 - Damage: Check to case is damaged or not.
 - Water: In case that the water is filled a case, press valve and drain water from case.

2) Monthly check point

- Wire
 - watch for wear, twisted, burst of wire.
- *Filter Regulator
 - Filter: In case that it is dirty or the foreign substance is stuck, replace it with new one.

4-3. INSTALLATION & TRANSPORTATION

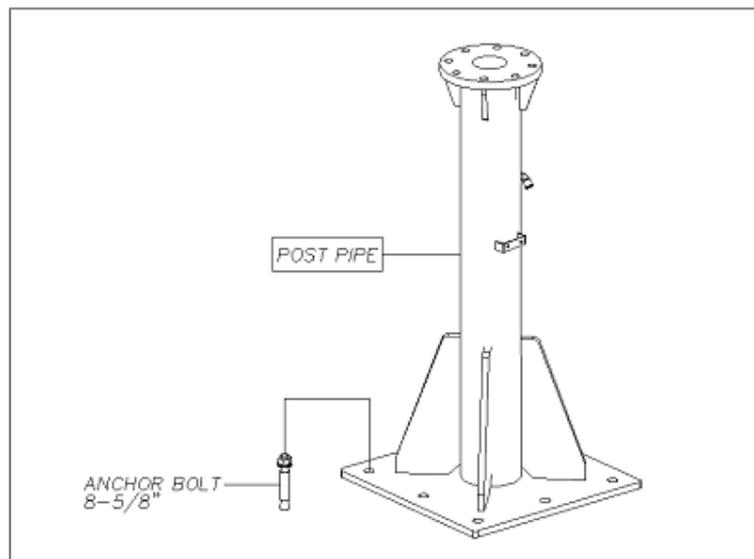
4-3-1. HOW TO INSTALL

1) Post pipe

- Stand post pipe on the firm and flat ground
- Make holes to the base plate's bolt hole with hammer drill
- After fixing anchor bolts to the holes with hammering, insert washers & nuts to the screw parts and fasten it tightly.

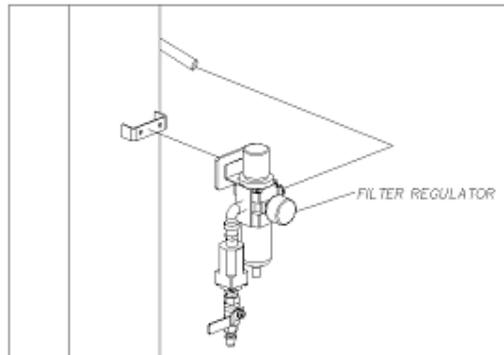


In case of fixing pipe to the ground with anchor bolts, use a level and let the pipe make level to the ground



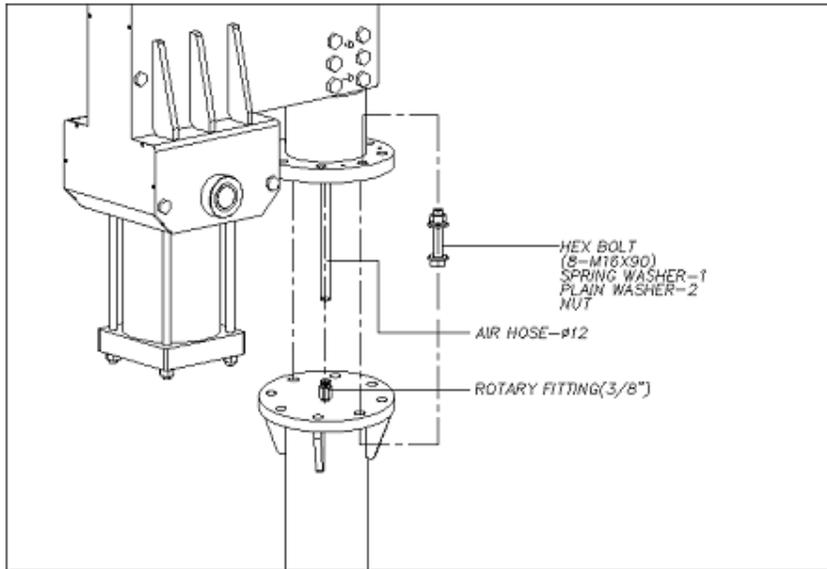
2) AIR INLET ASSEMBLING

- Fix regulator with bolt and connect air hose to fitting at side location.



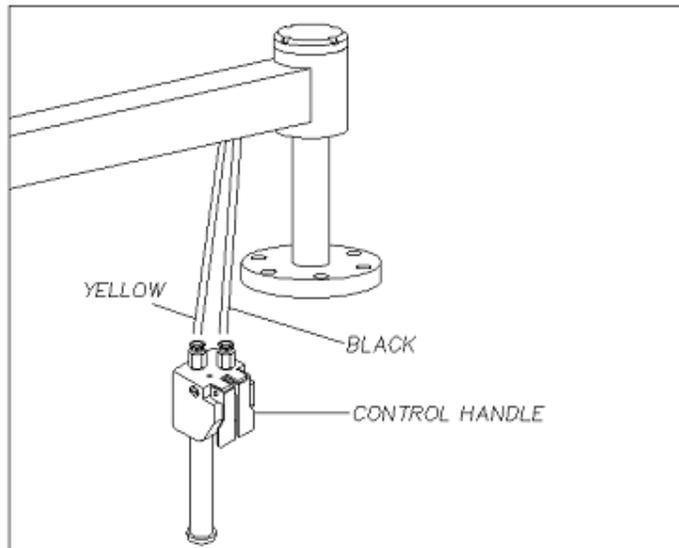
3) INSTALLATION OF ARM

- Insert O-Ring to the groove which is down side of flange
- Put on turn-arm to the post's flange and fit position of labs each other.
- Insert Hex bolt(M16x90) with plain washer to the flange and fasten tightly plain washer & spring



4) Control part's combination

- Connect black hose to the fitting of "UP" and yellow hose to "DN".



4-3-2. SUPPLY AIR & TEST

- Connect the hose to the compressed air inlet which is fixed to the side of post.
- Open the valve and control the air pressure becomes 6kgf/cm²
- Hold control handle with hand and operate the levers slowly with watching for hook's move.
- In case arm speed is too fast or slow, control the speed of hook with rotating speed-control pin on the side of control-handle.

4-3-3. TROUBLESHOOTING

This equipment is manufactured under strict quality control system. Therefore no troubles are expected during its operation. But, owing to installation and control problem by user, slight troubles may be occurred as follow;

- 1) In spite of pressing levers of control handle, the hook is not moved.
 - No compressed air – Supply compressed air.
 - Connection of air hose is wrong – Change connection.
- 2) Hook's moving speed is not normal
 - The speed-control-pin of control handle is not normal controlled- Readjust.
 - The pressure of compressed air is of normal
 - Set the pressure of compressed air to 100psi

5-4. CAUTION

- Only the worker who is well educated in safety and operation for this equipment should operate it.
- The worker should operate it with good condition.
- Check the equipment is damaged or worn at any time. In case that the equipment is found damaged or worn never use it.
- It is prohibited to use more than one hook to the owe line of wire.
- Do not lift up more than the specified max weight.
- Do not stand within the limits of falling weight.
- Air filter should be attached to the post pipe focus.
- Never use this equipment for the purpose of moving human being and it is prohibited for men to stand below the weight,.
- Nobody must be on the passage way of the weight's move.
- Do not move the weight overhead.
- Do not lift up the weigh during it's moving is not favorable.
- Stop air supply before repair work.
- Be well informed of how to operate the equipment before use.