



Safety Precautions

Be sure to read this section before use.

Refer to Intro Page 73 for general information of the cylinder, and to Intro Page 80 for general information of the cylinder switch.

Product-specific cautions: Balancer unit BBS Series

Design/selection

WARNING

- Do not use the balancer unit at pressures exceeding the max. working pressure or working piston speed.
- Do not rotate the piston rod while brakes are on. It may cause damage.

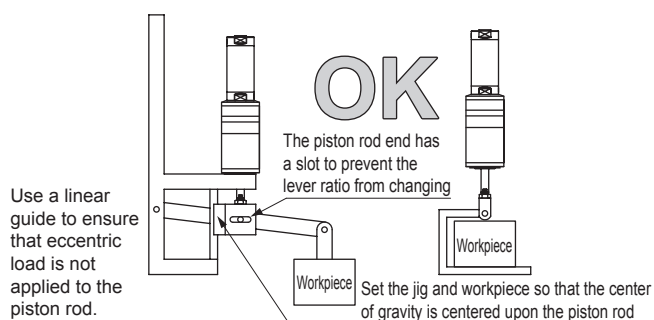
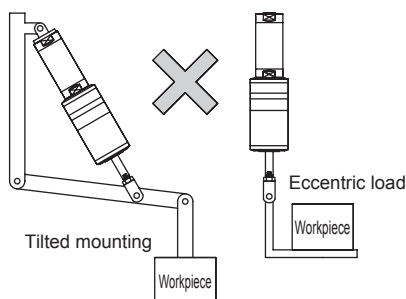
CAUTION

- Compressed air must be clean and dry and passed through an air or oil mist filter. Install a filter on the circuit and note the filtration rating (5 μm or less required), flow rate, and mounting location (near the control circuit).
- When the automatic pressure adjustment is selected for the air method, be sure to use the control box (BBS-A-TB).

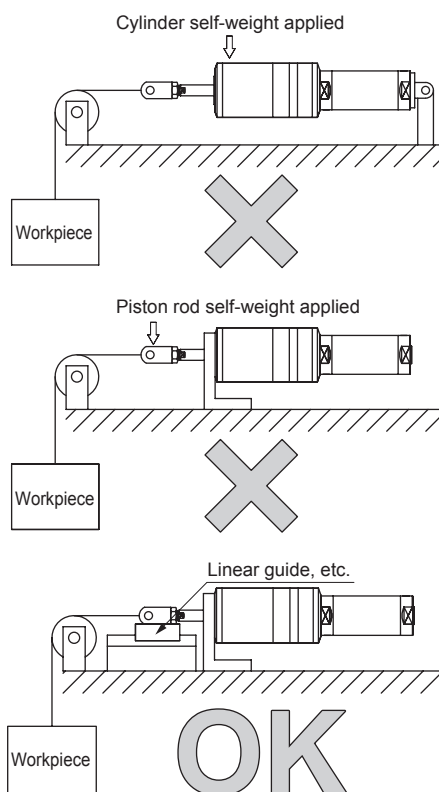
- Periodically discharge the drainage built up in the filter before it exceeds the specified line.
- The valve or cylinder could malfunction if carbonized compressor oil (carbon or tar, etc.) enters the circuit. Take sufficient care when performing compressor maintenance and inspection.
- This unit does not require lubrication. Moreover, lubricating may cause various problems, so refrain from doing so.
- This balancer unit should, in principle, be used indoors only. It can be used outdoors as a movable unit, but must be returned and stored indoors after use.
- Be sure to apply brakes when stepping away from the device during operation. Otherwise serious accidents such as jigs or workpieces falling could result.

Mounting, installation and adjustment

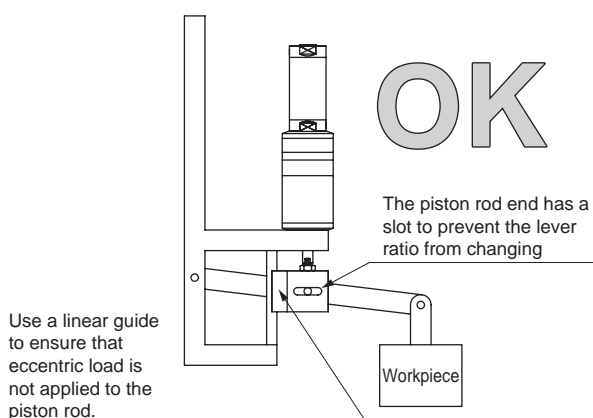
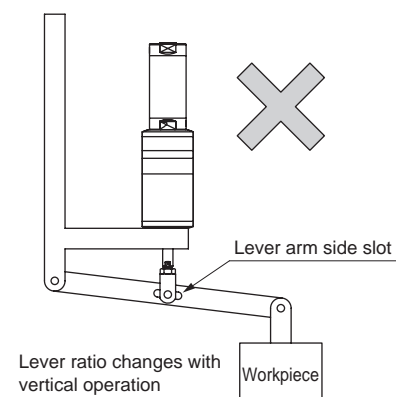
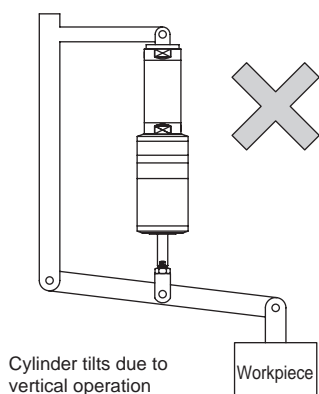
- This balancer unit has a mechanism that automatically detects the load applied to the piston rod; therefore, take care to ensure that eccentric load (tilted mounting or other eccentric loads) is not applied to the piston rod. The piston rod will operate poorly if an eccentric load is applied, requiring additional operating force. Furthermore, the automatic detection function may produce inaccurate results.



- When using the balancer horizontally, check that the piston rod and self-weight moment are not applied.



- When using with a link, use so that the lever ratio stays the same. (Example: fulcrum movement) If the lever ratio changes with vertical movement, the load could move up or down depending on the detection position regardless of manual operation.



- Do not rotate the piston rod while holding the load with brakes.
The piston rod and brake or detector are connected together, so the detector or brake may be damaged if a rotational torque is applied.
- The pilot chamber valve is mounted onto the product, so please do not loosen the bolts in an attempt to remove it. Otherwise air leaks could cause detection pressure to decrease and the jig or workpiece to fall during operation.
- Consider the supplied air flow rate when piping between the balancing unit and control box.
Moreover, the control box should be placed as close to the balancer as possible in order to reduce the piping length. Otherwise the flow volume will decrease, piping length will increase and more operating force will be required.
- When the BBS-A air method is selected, use the pressure gauge and air lamp (use of 2 pressure gauges is possible) for the default setting. The customer is requested to prepare this equipment.
- Please note that the operating force may change during operation depending on the conditions of use.

LCM
LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MechHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

Use/maintenance

⚠ WARNING

- Do not disassemble the product.

⚠ CAUTION

- For safety reasons, return the brake switch to the braking position after completing operation.