1 Safety

1.1 Instruction

(1) Use of this instruction The machine tool stall should familiar with this instruction, and must understand the operated process, knowledge of safe operation and maintenance in this instruction, put this instruction near the machine tool in order to read it easily.

(2) Copyright of responsibility The copyright of this instruction belongs to this factory, and only supplies for the buyer and his stall. All contents in this instruction does not permitted to copy and send or deliver by any form, if anyone break this rule, we will solve it by law.

1.2 Range of responsibility

Our factory has the binding force about the rules and conditions of machine tool usage, when one or several reasons occur as follow, we will not take the responsibility if one's conduct hurts anybody or losing any property.

(1) Do not abide the rules about transport, installation, testing, operation and maintenance in the instruction.

(2) Operate the machine tool with hidden danger and defective device.

(3) Install the safety protection device or dismantle it in a incorrect way.

(4) Use cutter and fitting or process workpiece which exceed the design range.

(5) Change the structure and control without our permisstion, Such as change the specification, running speed and control type of our machine tool.

(6) Replace or uninstall spare parts without enough knowledge.

(7) Check, maintain the machine tool without necessary safe protecting preparation.

(8) Do not have enough inspection about the spare parts or the nature disaster.

1.3 Safety device and safety preparation

1.3.1 Safety device

(1) Install safety protecting device properly before operating the machine tool, ensure that the work circumstance is safe.
(2) Operator must understand all safe guidance and labels.

(3) It is forbidden to start the machine when one safety device is not normal.

(4) All faults even it is so little need to be pay attention, check the machine for one time at least.

(5) All works such as transport, installation, debugging and maintenance must be done by workers who focus on those subject before.

1.3.2 Points for attention

(1) Before operating the machine tool, its operation instruction must be read carefully in order to have a good understanding of its performance and the correct operating methods.

(2) Before operating the machine tool, the first step is to examine if all protection devices are normal and all parts are loosened or damaged. Or, it shall be adjusted or replaced to ensure its normal functions. Kindly remember that all tools used for adjusting shall be removed.

(3) When operating the machine tool, the personnel must wear the tight clothes. It is forbidden to wear the loose clothes, a tie, a watch or the bracelets. If the personnel have the long hair, the work cap must be worn to cover the long hair.

(4) During the running of the machine tool, it is not allowed to disassemble or open all protection devices without authorization.

(5) It is prohibited for the operator to leave the working post during the operation of the machine tool.

(6) It is forbidden to process the workpiece and use the part exceeding the original designed functions of the machine tool.

(7) The operation of the machine tool is only carried out by the operator in the good physical condition and without drinking.
1.4 Safe notes and labels

This safety notes on this label require operator abide all operating rules of this machine, or injury will happen.

The label warns that, when the user is clamping the workpiece, any part of the body is not allowed to enter into the clamping zone of the machine tool. Otherwise, The personal injury may be caused.

1.5 Nameplate

Check the equipment model, the number and the manufacture date shown on the product nameplate on the hot-pressing machine tool, confirm whether the product is the same with that in the order contract, and inspect if there is the machine damaged and the attached accessories lost.
2 Introduction of the machine tool
2.1 Technical parameters

<table>
<thead>
<tr>
<th>MODEL</th>
<th>MH2323</th>
<th>remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. assembly dimension</td>
<td>2500×1320 mm</td>
<td></td>
</tr>
<tr>
<td>Dimension of work table</td>
<td>3100×1800 mm t=5 mm</td>
<td></td>
</tr>
<tr>
<td>Range of assembly thickness</td>
<td>10-75 mm</td>
<td></td>
</tr>
<tr>
<td>Max. width of side press</td>
<td>960 mm</td>
<td></td>
</tr>
<tr>
<td>Dimension of locating hole</td>
<td>Φ14</td>
<td></td>
</tr>
<tr>
<td>Distance of locating hole</td>
<td>40×40 mm</td>
<td></td>
</tr>
<tr>
<td>Manual oil cylinder</td>
<td>Area of pressure plate 140×80 mm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Stroke 50 mm, pressure 2000N</td>
<td></td>
</tr>
<tr>
<td>Main pressure cylinder</td>
<td>Area of pressure plate 140×80</td>
<td></td>
</tr>
<tr>
<td>Air source pressure</td>
<td>0.4~0.8Mpa</td>
<td></td>
</tr>
<tr>
<td>Overall dimensions (L×W×H)</td>
<td>3090×760×2150 mm</td>
<td></td>
</tr>
<tr>
<td>Net weight</td>
<td>850 kg</td>
<td></td>
</tr>
</tbody>
</table>

2.2 Application scope and characteristics of the machine tool
This machine is mainly used to assemble and press doors, windows and all kinds of frames. It is featured in high quality assembly, fast and high efficiency. It is widely applied to furniture manufacturing industry and professional manufacturers of doors and windows.
2.3 Noise of the machine tool
When pressing work pieces, the machine tool may bring some noise, and it may exceed 83dBA. Therefore when necessary, some measures shall be taken to protect workers in the working environment, such as wearing ear protector.

2.4 Main structure of the machine tool

1—air pipe  
2—pressing gasbag  
3—manual oil cylinder  
4—pressing mechanism  
5—rotatable manual oil cylinder  
6—material retaining mechanism  
7—frame part  
8—left material retaining rod  
9—lower material retaining rod
3 Application environment, hoisting, transportation, installation and storage

3.1 Its application environment

Table 3-1

<table>
<thead>
<tr>
<th>Environment</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambient temperature</td>
<td>0-45°C</td>
</tr>
<tr>
<td>Environmental humidity</td>
<td>Below 90%RH</td>
</tr>
<tr>
<td>Environment</td>
<td>There are no corrosive gas, flammable gas</td>
</tr>
<tr>
<td></td>
<td>and oil mist in the room.</td>
</tr>
<tr>
<td>Altitude</td>
<td>Less than 1000m</td>
</tr>
</tbody>
</table>

3.2 Lifting

The machine tool can be transported separately or wholly. Generally, whole transportation is applied. During transportation, necessary measures shall be taken for sun protection, rainproof and tightening. Only professional loading and unloading workers are allowed to unload the machine tool.

1. During loading and unloading, the surrounding miscellaneous personnel shall be evacuated, and effective temporary safe protection devices shall be set.
2. Lifting machine or electric forklift shall have enough loading capacity. During the loading and unloading period, the machine tool must be stable. After loading and unloading, all tools and temporary safe protection devices shall be taken away in time.

3.3 The installation of the machine tool

3.3.1 Placement of the machine tool

The machine tool must be installed on firm cement ground which must be level. There is enough room surrounding the machine tool. Horizontal alignment shall be carried out to the machine tool transversely and longitudinally.
3.4 Storage of machine tool
For prolonging the usage of machine tool, it should avoid that:

- Sunburn for a long time
- Place in the wet plate
- Heavy shaking

4 Adjustment and operation of the machine tool
4.1 Safety inspection before operating the machine tool
Before operating the machine tool, it is necessary to inspect it carefully and thoroughly so as to ensure safe operation.

1. Check whether each safe protection device is correct, firm and reliable.
2. Check whether each transmission and connection part of the machine tool is tight.
3. Check whether the lifting motion is smooth, stable and reliable.

4.2 Operation of the main parts
4.2.1 Manual oil cylinder

The manual oil cylinder can be operated horizontally and vertically so as to achieve aim of pressing work pieces.
4.2.2 Rotatable manual oil cylinder

Function of the rotatable manual oil cylinder is similar to that of the common oil cylinder. It is applicable to horizontal and vertical work pieces and can be rotated randomly on the work table.

4.2.3 Pressing gasbag and pressing mechanism

A: Pressing gasbag

The newest gasbag structure is applied to the gas pressure part to ensure even force, safety and reliability.

B: Pressing mechanism

According to size of work pieces, adjusting the handle to move it up and down (left and right).

4.2.4 Material retaining mechanism

Used to small work pieces fixed on horizontal or vertical surface.
4.2.5 Air pipe

The left coupling is connected to external gas source. There are 5 quick-action couplings in the round pipe which are used to exchange couplings quickly. It is convenient and fast.

4.2.6 Fixing lug

Pressing mechanism, material retaining mechanism, two manual oil cylinders and pressing gasbag are all fixed by fixing lugs on the work table and are tightened by M8X10 hexagon socket screws.

4.2.7 Adjusting the device horizontally and vertically

It is at outside of the horizontal and vertical material retaining plate. It is used to adjust horizontal and vertical directions of the material retaining plate so as to ensure verticality at the two directions.
4.3 Operation procedure
The machine tool can be easily operated. Each motion can be operated manually. It is applied to frames of doors and windows, picture frames, chair frames and other small frames.

Jointed board is mainly depended on manual oil cylinder and pressing gasbag which are selected according to work pieces. Material retaining device shall be used according to size and shape of work pieces.

The left and lower material retaining rod of the work table is the fixing surface of assembly and press. The material retaining mechanism is the movable fixing surface. Manual oil cylinder or pressing gasbag drives assembly of work pieces. Material retaining mechanism, manual oil cylinder, gasbag and side press subassembly are installed and fixed by pins with distance of times of 40mm. Their fixing place can be changed on the work table according to requirements.

5 Maintenance of the machine tool

A. Daily maintenance of the machine tool
   (1). The machine tool shall be clean. Each transmission part and rotating junction shall be coated with lubricant.
   (2). Do not stack sundries on the machine tool.

B. Maintenance of the machine tool during operation
   (1). Operating the machine tool by correct methods; do not press work pieces which exceed the original design processing range.
   (2). Placing work pieces by correct methods; do not press partially or unevenly.

C. Check and repair period of the machine tool
   (1). Every time after processing the work pieces, each transmission part and safety device shall be inspected; operating the machine tool no-load to check whether its motion is correct, smooth and reliable.
   (2). Thoroughly checking and repairing it once every month, paying attention to lubricating and wearing condition of each transmission part, and tightness of each safe protection device; adjusting or replacing it when necessary.

D. Maintenance of the machine tool during storage
   (1). When the machine tool is not used, it shall be cleaned; each transmission part shall be coated with lubricant; and it shall be well packed and stored.
   (2). The machine tool shall be placed in dry and well-ventilated room. Sunlight and rain are prohibited.
6 Machine tool failure and solution

If the following failures are observed, the relevant solutions can be applied for primary treatment. If it cannot eliminate troubles, please contact the manufacturer for technical help.

<table>
<thead>
<tr>
<th>The fault</th>
<th>Possible reason</th>
<th>Troubleshooting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manual oil cylinder fails to hold pressure.</td>
<td>Oil leakage of the cylinder</td>
<td>Please contact the manufacturer for solutions.</td>
</tr>
<tr>
<td>Pressing gasbag fails to hold pressure.</td>
<td>Gas leakage of the gasbag</td>
<td></td>
</tr>
</tbody>
</table>