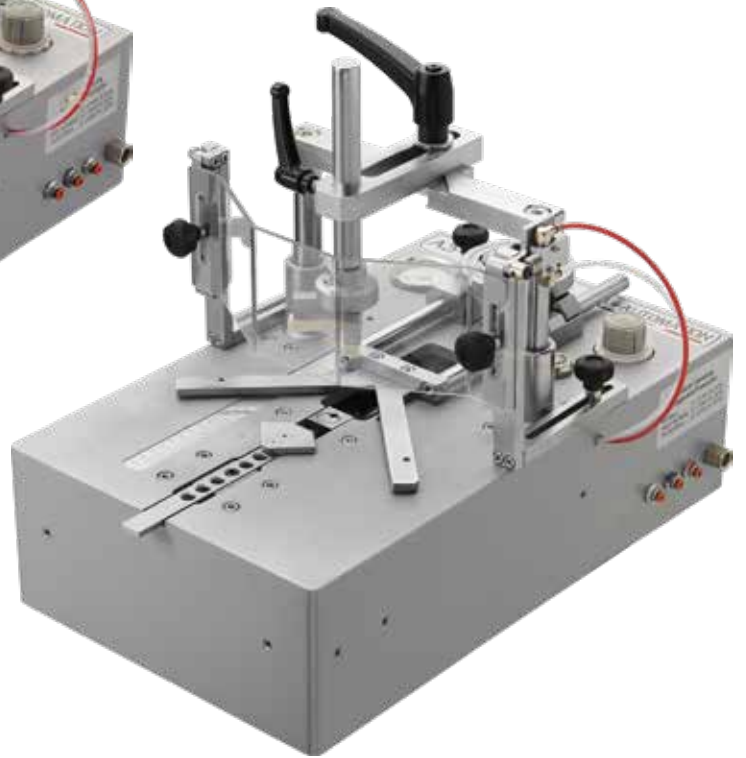


# A3-P



## INSTRUCTION HANDBOOK



**A+AUTOMATION**



**APM** Mouldings

**CCC Chamton** Pty Ltd

**For sales, service and spare parts**

APM Mouldings 120-130 Bolinda Rd Campbellfield, VIC 3061  
Ph: 03 8301 9199 | Fax 03 9357 4077 | Email [apmoffice@chamton.com](mailto:apmoffice@chamton.com) | [www.apm-mouldings.com.au](http://www.apm-mouldings.com.au)

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## 1. GENERAL INFORMATION

### 1.1 MANUFACTURER AND MACHINE IDENTIFICATION PLATE

The identification plate illustrated is affixed directly on to the machine. The plate contains all identification details and indications necessary for safe operation.

### 1.2 TECHNICAL SERVICE REQUEST PROCEDURES

For any requirement, please contact the Manufacturer's Customer Service.

For any request for technical service, list the data on the identification plate, the approximate number of hours the machinery has been used and the type of malfunction.



Tipo / Type:	<b>A3-P</b>
Anno di costruzione / Year of construction:	<b>2018</b>
Matricola / Serial Number:	
Peso / Weight:	<b>35 Kg / 77 lbs</b>
Alimentazione pneumatica / Pneumatic feed:	<b>3-6 BAR / 40-80 PSI</b>

### 1.3 CERTIFICATION

The machine is produced in conformity to the pertinent European Community Norms in force at the moment of its introduction on the market.

### 1.4 WARRANTY

The replacement of defective parts is warranted (counting from the date written on the delivery bill) for a period of:

- Mechanical components      24 months
- Pneumatic part                      12 months

The driver blade is tested for more than 1.000.000 working cycles.

The Warranty does not include sending of technical staff. The repair will be performed at A-Plus Automation's facility and the freight of shipment will be entirely charged to the Customer. The warranty does not cover the damages caused by an inappropriate use of the machine or not corresponding to the instructions described in this handbook. The warranty decays in case of unauthorized modifications or because of accidental damages or tampering performed by unqualified personnel. The warranty also decays if you use wedges different from the original special steel A+ ones. To take advantage of warranty services it is necessary, at the moment you receive your machine to completely fill out the warranty card and send back as soon as possible to A-Plus Automation. The warranty will be valid after it is received & recorded at A-Plus Automation.

### 1.5 PRE-ARRANGEMENTS CHARGED TO THE CUSTOMER RESPONSIBILITY

It is the customer's duty, on times agreed with the manufacturer, to execute what is indicated in our documentation.

Things normally charged to the customer:

- Premises predisposition, included building works
- Pneumatic supply of compressed air (see at the paragraph 4.5)




### 1.6 PURPOSE OF THE MANUAL

The manual herein, part and parcel with the machinery, has been designed and built by the manufacturer with the purpose to supply the necessary information to the persons authorized to operate the machinery during its useful life. As well as adopting an appropriate utilization technique, the recipients of the information must read and strictly apply them. This information is supplied by the manufacturer in its own language (Italian) and may be translated into other languages to satisfy statutory and/or sales needs. A time dedicated to the study of this information, will permit the user to avoid health and safety risks to personnel and economic loss. The translation in the language of the country of use, supplied by the manufacturer, its representative or whoever brings the machine to such linguistic area, must be carried out from the "ORIGINAL INSTRUCTIONS" and must display the phrase "TRANSLATION OF THE ORIGINAL INSTRUCTIONS". In the event that the manual herein contains additional information concerning the fittings of the machinery, said information does not interfere with the reading of the manual.

Keep this manual for the entire duration of its useful life in a well known and easy to access place, available for reference any time the need should arise.

The manufacturer reserves the right to make modifications with no obligation to supply a prior notification.

## 1.6 SYMBOLS

SYMBOL	MEANINGS	
	<b>DANGER</b>	Indicates situations involving great hazard risks which, if overlooked, could put people's health and safety in great danger.
	<b>WARNING</b>	Indicates technical information of particular importance which must not be overlooked.
	<b>INQUIRY</b>	The user is requested to check the proper positioning of any element of the machine, before operating a certain command.

## 2. MACHINE DESCRIPTION

### 2.1 GENERAL MACHINE DESCRIPTION

The benchtop Frame Assembling Machine A3-P has been realized for frme production.

### 2.2 CONSTRUCTIVE CONFIGURATION

The main components constituting the machine are:

- Pneumatic clamping device to allow a proper locking of the mouldings to insert several Wedges in different positions
- Magnetic pressure pads of several types, at quick replacement, to have the proper clamping of any profile
- Dual function foot pedal for the separate control of the clamping and wedge insertion
- Pneumatic opening of the Wedge magazine for a very quick reloading
- Wedge heads sizes 7, 10 and 15 mm.

### 2.3 AXIS

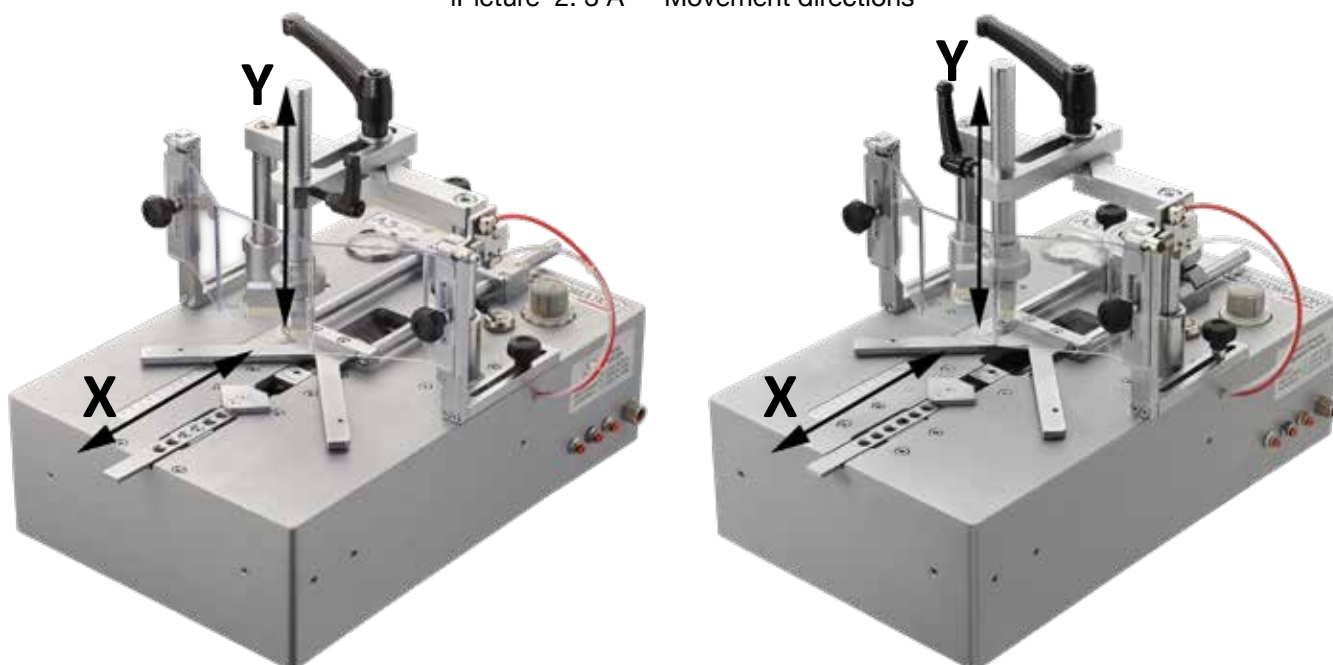
- X AXIS

Movement horizontal.

- Y AXIS

Movement vertical

Picture 2.3 A - Movement directions



### 2.4 AMBIENT CONDITIONS IN THE INSTALLATION AREA



**The installation area must have adequate environmental conditions.**

The installation area must meet the following requisites.

- Adequate lighting to European standards (recommended 250÷650 lux)
- Well ventilated rooms
- Adequate relative humidity and temperature. The permitted temperatures go from 5° to 40° C, with a humidity level not higher than 50% at 40° C or 90% at 20° C.
- The floor, as well as having an adequate load capacity for the machine weight, must be stable and levelled in order to guarantee a correct support.

## 2.5 VIBRATIONS

In standard conditions conformed to the indication of machine proper utilization the vibrations do not create dangerous conditions. The average quadratic weighed level, according to the acceleration frequency to which arms are exposed does not exceed 2,5 m/s<sup>2</sup>.

## 2.6 NOISE EMISSIONS

In standard working conditions the Machine noise power level is:

- Acoustic Continuous Equivalent weighed pression A <70dB
- Acoustic Istantaneous weighed pression <130dB



**In case of any machine modification, the above mentioned levels could be changed**

## 2.7 TECHNICAL DATA

We have listed below the Machine's data and technical characteristics to which you can make reference for any eventual contact with your distributor for Technical Assistance.

TABLE 2. 7 A Tecnical data

Frames thickness (min-max)	8-100 mm / 1/4" - 4 1/4"
Frames width (min-max)	6-150 mm / 1/4" - 6"
Wedges magazine capacity	n. 200
Wedges size	7, 10, 15 mm.
Wedges size on request	3, 5, 12 mm.
Pneumatic feed	BAR 3-6 / PSI 40-80
Air consumption	3,5 NI at 5 BAR 0.12 cf <sup>3</sup> at 73 PSI
Weight	approx. 32 kg / 77 lbs
Height of working bench	130 mm / 5"
Overall dimensions	320x480x380mm 13" x 19" x 15"

## 2.8 EQUIPMENT SUPPLIED

<i>2.8.1 Standard accessories</i>	<i>2.8.2 Optional accessories</i>
• N.1 wedge claw-head mm. 7	• Floor stand
• N.1 wedge claw-head mm.10	• Metal support extensions
• N.1 wedge claw-head mm.15	• Adjustable tilting fences
• N.1 L shaped pressure pad	• Special fences for octagons
• N.1 Round pressure pad	• Special fences for hexagons
• N.1 Allen Wrench 5 mm. claw-head replacement	• Round and square pressure pads in rubber
• N.1 Brass rod magnet to remove Wedges	• Wedges claw-heads size 3-5-12 mm
	• Double mechanical pressure pad
	• Triple mechanical pressure pad

### 3. SAFETY

#### 3.1 GENERAL WARNINGS

- The manufacturer, during the design and manufacturing stages, has paid special attention to the aspects that might jeopardize the safety and health of the personnel that operates the machinery. As well as the compliance with current regulation on the matter, the manufacturer has adopted all the “rules of good craftsmanship”. The purpose of this information is to make the user aware to pay special attention in order to foresee any risk. There is no substitute for carefulness. Safety also lies in the hands of all operators that work on the machinery.
- Carefully read the instructions of the manual supplied with the machinery and the ones directly fitted on the machinery, especially the ones concerning safety. A little time dedicated to the study of this manual will prevent unpleasant accidents.
- Pay attention to the meaning of the symbols of the plates fitted on the machinery; their shape and colour are important for safety purposes. Keep them readable and comply with their information.
- Do not tamper with, do not dodge, eliminate or bypass the safety devices installed on the machinery. The non compliance with this requirement may cause serious risks for personnel’s safety and health.
- The personnel that carries out any type of operation during the entire useful life of the machinery must have specific technical competence, special skills and experience acquired and acknowledged in the specific sector. The lack of these requisites may jeopardize the safety and health of personnel.
- During operation only use the personal protection clothes and/or devices listed in the instructions supplied by the manufacturer and the ones provided for by current regulations on safety at work.
- During the normal use or for any intervention, keep the surrounding area in adequate condition, especially the one accessing the controls, in order to avoid jeopardizing the safety and health of personnel.
- The operator, as well as being adequately informed on the use of machinery, must possess skills and competence adequate to the type of working activity to perform.
- The machine must only be used for the applications intended by the manufacturer. Only use the machinery for the purposes intended by the manufacturer. The employment of the machinery for improper uses may cause risks to the safety and the health of personnel and economic loss.
- Provide appropriate containers to stock the pieces you will be working with.
- Keep your foot off of the pedal and disconnect the main air supply while performing any machine maintenance .

#### 3.2 SCHEDULED USE

The Machine is designed and built to execute junctions of frames.

The machine is projected for manual use only (under operator control).

#### 3.3 INADVISABLE USE

The machine can not to be used:

- For uses different from those listed in 3.2 paragraph
- Outside in all weather severity
- In an explosive or aggressive atmosphere where there is a high density of dust or oily substances suspended in the air
- For molding to be assembled not suitable with the machine’s characteristics.
- In a flammable atmosphere

#### 3.4 DANGEROUS AREAS

**Working area** -Area of frames assembly, wedges driving/insertion.

**Dangerous areas** - include the movable parts and surrounding zones.

 Dangerous Area



Figure 3.4.A - Working area and dangerous zones



### 3.5 PROTECTION DEVICES

The machine is equipped with protection shield for persons exposed to the risks due to the transmission of mobile elements taking part in working (driver blade, horizontal clamp, vertical clamp).

### 3.6 STOP MODE

**Uncontrolled stop** It is obtained by disconnecting the quick connect fitting from the main air supply.

**Controlled stop** It is obtained by lifting the foot from the pneumatic pedal not allowing the wedge to drive

### 3.7 SAFE WORKING PROCEDURES



**The machine is projected and realized to eliminate any risk connected with its use.  
The user is requested to achieve an adequate training to be instructed by their distributor.**

The other risks related with using the machine are:

- Finger crushing in the frontal and vertical clamp working area

It is necessary to carefully follow the following instructions:

1. Keep the fingers away from frontal and vertical clamp working areas
2. Disconnect the air pressure and during any maintenance interventions
3. Keep the foot away from the pedal during machine maintenance

### 3.8 DESCRIPTION OF SAFETY SIGNS

Some of these signals are applied on the machine. Their meaning is specified on their side.

Make sure that the plates are perfectly readable, otherwise replace them with new ones to be fitted correctly in place



Adhesive sign concerning the finger danger zone

## 4. HANDLING AND INSTALLATION

### 4.1 HANDLING

The personnel in charge of loading, unloading and moving the machinery must possess the skills and experience acquired and acknowledged in the specific sector, and must thoroughly know the lifting means to be employed. The machine has to be shipped in a safe way to avoid any damage to its parts

- All the protections and guard devices must be properly closed and locked.
- The machine has to be shipped like it is positioned for installation.
- Before the shipment it is necessary to lubricate the parts which are not painted.
- According to the type of shipment, it is necessary to protect the machine from any jarring impact or stress

Figure 4.1A – machine handling indications



Machine total weight: about 35 Kilos / 77 lbs



**Lifting must be done by using a specific device.**

#### 4.2 WAREHOUSING AND STORAGE PROCEDURES

- In order to avoid that the components cause dangers or are damaged, the storage area must be covered (preferably a closed area) and accessible only for authorised personnel.
- Avoid corrosive materials that could touch the machine
- Lubricate the parts which are not painted or chromed.

#### 4.3 UNPACKING

According to the installation requirements, the personnel authorised by the manufacturer will unpack the components in the most suitable way and will check their integrity. Keep all packages (carton box, pallets, etc.) for future use and dispose of the protection materials (nylon, polystyrene, etc.) according to the laws in force.

#### 4.4 PRELIMINARY ARRANGEMENTS

In order to install the machine it is necessary to prepare a working area (a table) adequate to the machines dimensions and the length of moulding you will be working with. To fulfill the characteristics of precision and steadiness, the bench frame assembling machines must be positioned on a solid and leveled plane able to sustain the weight of the machine. The bench must be studied and prepared by the customer and/or qualified staff.

#### 4.5 PNEUMATIC CONNECTION

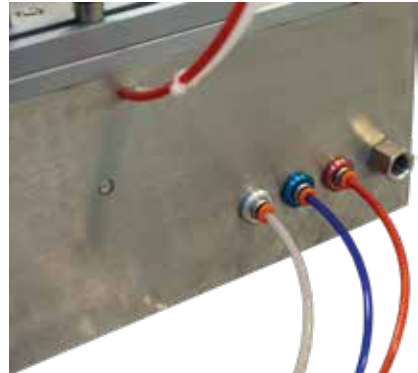
The machine is controlled by a dual function foot pedal.

The 3 pipes for the pedal must be inserted into the 3 fittings located on machine's right side in the following sequence

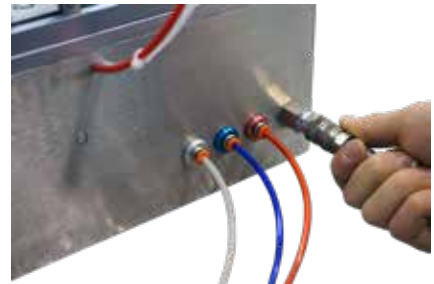
**Upper connection** Red pipe into the red fitting (external side)

**Central connection** Blue pipe into the blue fitting (central fitting)

**Lower connection** White pipe into the neutral fitting (lower fitting)



Use the supplied quick disconnect fitting to connect to the air compressor system. You could use also another fitting suitable with your pneumatic system.



Once you have connected the machine to the the pneumatic system, check the operation of the foot pedal in the following way:

- Move the vertical rod fully upwards by pressing the lever located on the side of the clamp & pull the rod upwards. See picture 16 in section 4.8.2b
- Pressing the foot pedal half way down activates the locking of the fence, the horizontal clamp and the vertical clamp.
- The foot pedal pressed full down activates the wedge driving.



It is advisable to install a filter on the air compressed system to obtain clean and lubricated air. Use only silicone lubricating oil for pneumatic systems. The use of inadequate oil could damage the valves.



Check the foot pedal operation when the wedge magazine is closed. The foot pedal control is deactivated when the wedge magazine is opened.

## 4.6 PRELIMINARY CONTROLS

Before setting up the machine, execute checks to prevent mistakes or accidents during setup.

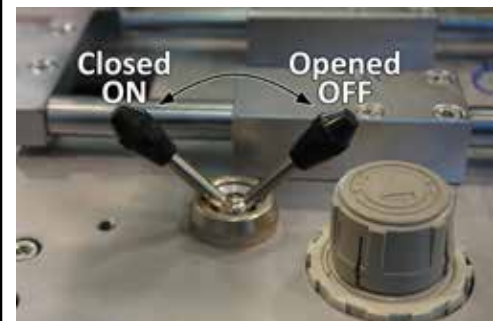
- Verify that machine has not been damaged.
- Verify the pipes integrity

## 4.7 MACHINE ARRANGEMENT

### 4.7.1 Wedges magazine loading

To load the wedge magazine proceed as follows:

- Move the claw pusher backwards by flipping the special lever located on the right side of the machine working bench. This will give you access to the wedge magazine (see fig. 7).



Picture 7

- Insert one wedge strip into the magazine. Make sure that the sharpened edge of the wedges (glue side) faces up and that they are loaded with the "V" of the wedges pointing in the direction indicated in the figures 8 and 9. Check to see if the wedge size is suitable with the type of claw-head mounted.



Picture 8

- Move the claw pusher forward by flipping the control lever (see fig.7)



Picture 9

#### 4.7.2 Wedge guide head replacement to change Wedges size

The wedge guide head must be changed each time you use wedges of different sizes. Proceed as follows to replace it:

- Loosen the locking screw of the wedge guide head using the proper 5 mm Allen wrench (the screw is on the opposite side from the wedges magazine(See fig. 10)
- Take out the wedge guide head
- Move the clawpusher backwards by flipping the special lever located on the right side of the machine working bench (see fig. 7).
- Remove all the wedges that are still in the magazine (using the proper brass magnet, if necessary).
- Insert the new wedge strip (of desired height) into the magazine
- Move the clawpusher forward by flipping the control lever (see figure 7).
- Insert the new size wedge guide head to match the wedges you will be using (see fig. 11).
- Tighten the locking screw of the wedge guide head (see fig.10).



Picture 10

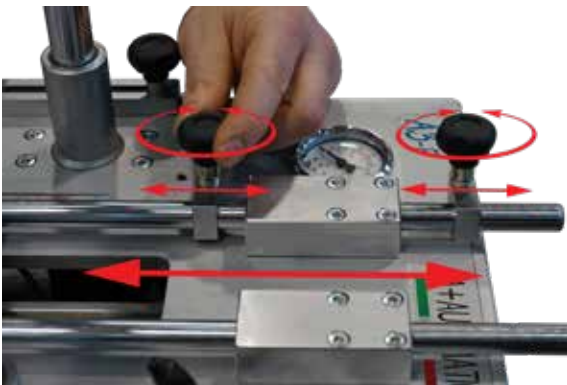


Picture 11

## 4.8 ADJUSTMENTS

### 4.8.1 Wedge inserting positions adjustment

To properly position the mouldings to be assembled, the A3-P is equipped with a 90° fence. The fence can be shifted forward or backward in order to allow the proper positioning of the wedges in the moulding the fence stops (backward and forward) can be set with precision by means of locking clamps (see fig. 13). The operator can easily use the machine to insert wedges with extreme precision into 2 different positions (fig. 14). You can also stop anywhere in between these two fence stops to add more wedge insertion positions.



Picture 13



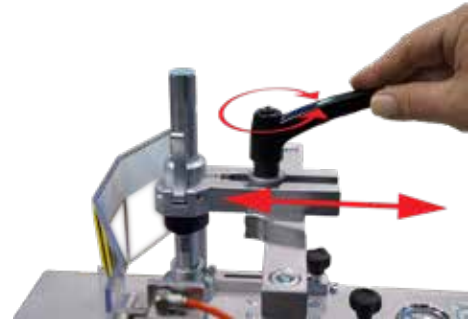
Picture 14

#### 4.8.2 Vertical clamp adjustment

The vertical clamp can be adjusted in height and position. Proceed as follows to adjust them:

##### 4.8.2a Vertical clamp position adjustment

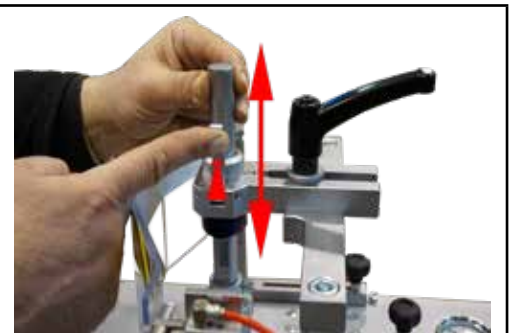
- Position the mouldings to be assembled on the working bench
- Select the pressure pad suitable with the profile of the moulding to be assembled and put it on bottom part of the the vertical bar
- Loosen the handle (see fig.15) that locks the clamp, which holds the vertical bar. This will permit its movement forward or backward. You want the pressure pad directly over the lath in the same position over the Wedge insertion point.
- Tighten the handle once you have reached the proper position



Picture 15

##### 4.8.2b Vertical clamp height adjustment

- Press the lever (see fig. 16) and adjust the pressure pad height over the frame. It is suggested that you put the bar height between 5 & 8 mm over the moulding. This will help avoid any accidental fingers crushing.
- Release the lever once you have reached the proper height.
- Lower the vertical clamp by pressing half way down on the foot pedal. This will verify that the mouldings to be assembled are properly clamped
- Press all the way down on the foot pedal to drive the wedge into the laths.



Picture 16

#### 4.8.3 Horizontal clamp adjustment

The horizontal clamp has a series of holes in the flat bar (see fig.17).

Lift the bar, to take it out of its initial position. You will now be able to move it forward and backward. To lock the bar it is sufficient to insert it into the proper peg located in the middle of the guide channel.

Proceed as follows to position the frontal Clamp correctly:

1. Remove the bar off of the peg by lifting it by about 10-15 mm (Picture 17). Move it forward until it touches the moulding to be assembled (see Picture 18);
2. Lower the bar into the next available hole and over the peg.



Picture 17



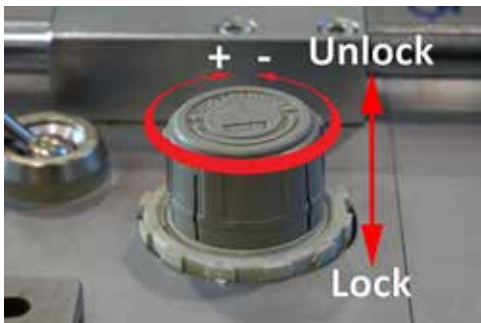
Picture 18




**In case of continued use without needing to remove the frontal clamp from its position, it is possible to fix it into the peg using the proper screw.**

4.8.4 Working pressure adjustment


The working pressure must be adjusted to the hardness of the mouldings to be assembled. The pressure regulation allows you to change the clamping pressure of mouldings to be assembled. Too high of a working pressure can cause a poor junction and (especially on small-size frames) the moulding could be crushed. Too low of a working pressure can cause an incomplete insertion of the wedge into the frame. The working pressure is adjusted by means of the regulator on the panel (see fig. 19). Proceed as follows to adjust the working pressure:

<ol style="list-style-type: none"> <li>1. Pull up the regulator cap by about 3÷4 mm. This will unlock it.</li> <li>2. Turn it clockwise to increase the pressure and counter-clockwise to decrease it.</li> <li>3. Push the regulator cap back down to lock it into position</li> </ol>	 <p>Picture 19</p>
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	<p><b>DO NOT ADJUST</b> the pressure if the machine is not connected to the air supply.</p>
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The suggested pressures are:

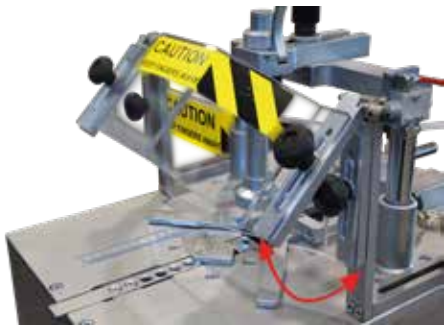
Soft woods	(samba,. poplar, ...)	1.5 - 2.0 Bar
Medium	(ramin, pine, ...)	2.0 - 3.0 Bar
Very hard woods	(oak, MDF), ...	3.0 - 5.0 Bar

	<p><b>The above listed values apply to 7 and 10 mm high Wedges.</b>  <b>Increase the pressure by 10 % for 15 mm high Wedges.</b>  <b>When stacking 2 or more Wedges in the same position, increase the working pressure by 20%.</b></p>
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4.8.5 Protective shield adjustment

Machine is equipped with a protective shield made of transparent plastic material. (see fig. 20).

In order to adjust the protection shield, proceed as follows:

<ul style="list-style-type: none"> <li>• Loosen the 2 knobs which hold the shield in place and lift or lower it to a height of about 6-8 mm from the top of the moulding.</li> <li>• Tighten the knobs to lock the protection shield.</li> </ul>	 <p>picture 20</p>
--	--

Even if the protective shield is properly adjusted, it is necessary following instructions listed below:

- Keep the fingers away from the frontal and vertical clamp working area.
- Disconnect the air supply during any maintenance intervention.
- Keep your foot off of the pedal while adjusting the machine.

For some operations, it is necessary to open the protection shield by turning it.



**Opening the protection shield or the wedge magazine, the foot pedal to be deactivated and consequently machine cannot operate.**

#### **4.9 ITEMS TO BE PERFORMED BEFORE OPERATING THE MACHINE**

Once the machine has been properly installed (as previously described), check that:

- The magazine is loaded with the type of Wedges suitable with the mouldings to be assembled
- The adjustment of the vertical and horizontal clamps are correct (chapter 4.8.2 and 4.8.3)
- The protective shield is properly positioned (see chapter 4.8.5)
- The working pressure is adequate to the wood hardness (see chapter 4.8.4)
- The mouldings to be assembled are properly positioned on the work bench
- Pressing halfway down on the pedal both the frontal and vertical clamps hold the frame properly
- 

Press the pedal all the way down to insert the wedge



**If you want to insert 2 or more wedges one upon the other in the same position, you must release the pedal until halfway and then press it full down again to insert the second wedge**

## 5. OPERATING MODES

### 5.1 OPERATORS

The machine has been designed to be used by only one operator.

The operator, as well as being adequately informed on the use of machinery, must possess skills and competence adequate to the type of work to be performed.

Even after being adequately informed, during the first use, if necessary, simulate some operating maneuvers to identify the controls, especially the ones for starting and stopping the machinery and their main functions.

How to operate in case of emergency, where to find the individual protection means and how to use them properly.

### 5.2 DESCRIPTION OF FUNCTIONS

The machine has only one possible operating mode: **Manual operation by using the pneumatic foot pedal.**

Press the foot pedal half way down to clamp the frames

Press the foot pedal all the way down to drive a wedge.

To assemble a frame junction, you must operate as follows:

1. Set the inserting positions by means of the fence locking clamps
2. Place the moulding on the work bench. Move the fence to the first inserting point.
3. Adjust the vertical clamp height and position
4. Adjust the frontal clamp position
5. Verify and adjust the proper working pressure, using the pressure regulator, according to the type of moulding to be assembled are the mouldings to be assembled.
6. Press half way down on the pneumatic pedal to verify the proper position and clamping of the moulding.
7. Press the pedal all the way down to insert the Wedge. If you want to insert 2 or more Wedges, one upon the other in the same position, you must release the pedal halfway and then press it all the way down again to insert the second Wedge and so on.
8. Completely release the foot pedal
9. (If the assembly requires it) Move the moulding and the fence to the next inserting point and repeat the steps 6,7 and 8.

### 5.3 TIPS FOR QUALITY JUNCTIONS

#### a) Wedge types

In order to allow the machine to make excellent quality joints using different materials, it has been necessary to manufacture different Wedges types for different uses (see attachment D).

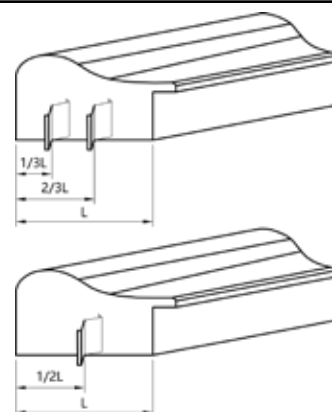
Wedges can be classified in three different groups:

Material	Suggested code	Color Ref.
soft materials (wood, soft plastic)	<b>SW</b>	Green
for medium materials (wood, ...)	<b>MW</b>	Gray
for hard materials (wood, MDF, HDF)	<b>HW</b>	Red

#### b) Assembling positions

It is advisable to operate as follows in order to achieve the best results in terms of junction quality:

- Never drive Wedges near the external vertex. The minimum recommended distance from the external vertex is at least 10 mm.
- When you want to make the junction using only one Wedge, the most suitable position is in the middle of the moulding (see fig. 21)
- In case you want to insert 2 or more Wedges into each junction, we recommend you to insert the most external one 1/3 from the external vertex and the most internal one 1/4 from the internal vertex (not less than 5mm).



picture 21



## 5.4 MACHINE STOP

To stop it, lift your foot from the pedal.

It is possible also to disconnect the quick connect fitting from the air supply.

In case on long inactivity periods it is necessary to disconnect the quick connect fitting from pneumatic system.

## 6. MAINTENANCE

### 6.1 RECOMMENDATIONS FOR MAINTENANCE

Carry out maintenance or repair operations with the machine isolated from air supply, as indicated by the Manufacturer.



**Before performing any cleaning intervention, the operator must disconnect the air supply**

During the maintenance or repair operations is suggested to proceed as follows:

- Before starting any operation place a sign “machine under maintenance” in a well visible position.
- Do not use solvents or flammable materials
- Do not step on the machine parts, because they have not been projected to sustain the weight of persons.
- Put on a pair of safety glasses.
- Once all the operations are finished replace any protections and shields you removed or opened.

### 6.2 CLEANING THE MACHINE

The machine is of simple construction and the mechanical parts do not require any special maintenance.

Keep the machine in maximum efficiency conditions and perform all the scheduled maintenance operations provided by the manufacturer. Good maintenance will result in better performance, a longer operating life and keep the safety requirements unchanged over time.

Follow the rules listed below:

- Regularly remove glue or other residues from the wedges claw-head and from the upper part of the driver blade;
- Always keep the wedge magazine clean and without residues.
- Remove any residues from the wedges guide “L” shaped support.
- Do not use water to clean the machine, otherwise metallic parts may rust.

### 6.3 ROUTINE MAINTENANCE OPERATION

Frequency	Ispection	Action
Every 1.000.000 wedges shot	wedges driver blade	Replace
Every 300 working hours	Movable parts lubrication	Lubricate
Every 5.000.000 wedges shot	Wedges claw-heads	Replace
Every 5.000.000 wedges shot	“L” shaped supports (wedges guide)	Replace
20 million of wedges shot	Valves and Reducers	Check and in case, replace
Every 6.000.000 wedges shot	Frontal and vertical clamping gaskets	Replacement in case of leak of air

### 6.4 RECOMMENDED OIL

Use CASTROL MAGNA GC 32 or equivalent oil



**Unsuitable lubricants may cause valve seal problems (seals may become too large) and consequent Valve jamming.**

## 7. DIAGNOSTIC

### 7.1 SAFETY WARNINGS

The interventions must be executed by personnel properly trained for this specific machine and they must take all precautions in order to avoid accidental starts.

During the tests, it is suggested to remove the vertical clamp assembly or position it to its full upwards position.

TABLE 7.2 - A

TROUBLE	POSSIBLE CAUSE	REMEDY
Pressing the foot pedal the Wedges ejection is discontinuous (sometimes it goes off)	Insufficient working pressure	<ul style="list-style-type: none"> <li>Check that the minimum value indicated from main gauge is higher than 2,5 Bar</li> </ul>
	Wedges wrongly positioned into the magazine	<ul style="list-style-type: none"> <li>Check that the Wedges sharpened side (glue side) faces up</li> <li>Check that Wedges V vertex is pointing toward machine's external side</li> </ul>
	Guide channels damaged or jammed	<ul style="list-style-type: none"> <li>Check that the guide channels are not dirty or jammed</li> </ul>
	Claw pusher has insufficient thrust	<ul style="list-style-type: none"> <li>Check that the pressure of the regulator feeding the claw pusher cylinder is at least 1,0 Bar. If necessary, increase it by 10%.</li> </ul>
	Claw head not suitable with Wedges size	<ul style="list-style-type: none"> <li>Check that the number engraved on the wedge claw head match the Wedges size</li> </ul>
	Faulty Wedges	<ul style="list-style-type: none"> <li>Replace the Wedges (from a different packaging)</li> </ul>
	Insufficient working pressure	<ul style="list-style-type: none"> <li>Check that the air pressure line.</li> </ul>
	Opened Wedges magazine	<ul style="list-style-type: none"> <li>Close the magazine by means of the special lever</li> </ul>
	Faulty valves	<ul style="list-style-type: none"> <li>Replace the foot pedal valve</li> <li>Replace the control valves</li> </ul>
Pressing the foot pedal for several times the machine's working cycle that was correct at the beginning becomes irregular later	Jammed valves because of surplus of oil or condensation liquid in the actuation hoses Ø 4mm	<ul style="list-style-type: none"> <li>Remove the surplus of oil and condensation from the valves by disconnecting the hoses/pipes one by one. This will force out the oil or condensation liquid.</li> </ul>
Pressing the foot pedal the working pressure indicated on the regulator deeply decreases (over 1,0 bar)	Faulty pressure regulator	<ul style="list-style-type: none"> <li>Replace the regulator</li> </ul>
	Air supply line too long or of inadequate diameter	<ul style="list-style-type: none"> <li>Replace the air line with a new one of bigger size</li> </ul>
Pressing the foot pedal the machine works properly, but once the pedal is released you can note a certain delay in the re-positioning of the driver blade and/or vertical clamp cylinders	Faulty or jammed valves	<ul style="list-style-type: none"> <li>Remove the surplus of oil and/or condensation</li> <li>Replace the foot pedal valve</li> <li>Replace the faulty control valves</li> </ul>
Wishing to insert several Wedges one upon the other in the same position, they do not stack properly or tilt during their insertion	Unsuitable Wedges	<ul style="list-style-type: none"> <li>Replace the Wedges with suitable ones</li> </ul>
	Unsuitable frames clamping (the frame moves during the Wedge insertion)	<ul style="list-style-type: none"> <li>Check and reposition the vertical clamp</li> <li>Increase the pressure by using the pressure regulator</li> <li>Replace the pressure pad with the proper one</li> </ul>
	Wore and torn driver blade	<ul style="list-style-type: none"> <li>Replace the driver blade</li> </ul>
	Jammed driver blade	<ul style="list-style-type: none"> <li>Revive and clean the driver blade's upper part by removing any material jamming the upper profile</li> </ul>

### 7.3 TECHNICAL SERVICE REQUEST PROCEDURES

For any requirement, please contact the Manufacturer's Customer Service.

For any request for technical service, list the data on the identification plate, the approximate number of hours the machinery has been used and the type of malfunction.

<b>E-Mail: <a href="mailto:service@a-plusautomation.com">service@a-plusautomation.com</a></b> <b>FAX: +39-0543-480770</b> <b>Via Selva, 23/25 - 47122 Forlì - Italy</b>
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In the USA please contact:

<b>E-Mail: <a href="mailto:service@a-plusautomationusa.com">service@a-plusautomationusa.com</a></b> <b>FAX: 248-851-8777</b> <b>31874 Northwestern Highway</b> <b>Farmington Hills, MI 48334</b>
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## 8. SPARE PARTS

### 8.1 SPARE PARTS LIST

Even though the machine has been submitted to several tests and functional checks, we listed below the components that we suggest you to have a minimum and sufficient set of. This will help guarantee the shortest possible downtime.

TABLE 8.1 - A

COMPONENT	
<ul style="list-style-type: none"> <li>• WEDGES DRIVER BLADE</li> <li>• WEDGES CLAW-HEADS</li> <li>• "L" SHAPED SUPPORT (WEDGES GUIDE)</li> </ul>	<ul style="list-style-type: none"> <li>• VALVES-REDUCERS-REGULATORS</li> <li>• VERTICAL AND HORIZONTAL CLAMPING</li> <li>• GASKETS</li> </ul>

### 8.2 SPARE PARTS ORDERING

We remind you that only a qualified technician can repair the machine.

Therefore we suggest the intervention of your local distributor or A-Plus Automation Center of Technical Assistance, which has access to qualified staff, proper equipment and tools, and who uses original spare parts.

To order the above spare parts, send the following data by fax, e-mail or letter:

- Model of the Machine
- Code of drawing scheme
- Reference number of spare part or group indicated on the mechanical drawing
- Code number of single or group spare part

## 9. MACHINE DEMOLITION

### 9.1 MACHINE DEMOLITION

When scrapping the machine, group components by chemical composition and dispose of separately in accordance with applicable legislation. Do not dispose of non-biodegradable materials, lubricant oils and non-ferrous articles (rubber, PVC, plastics etc.) in the environment.

## 10. ATTACHMENTS

### 10.1 DECLARATIONS

You can find here attached the following declarations

- Declaration of conformity to the Norm 89/392/CEE

### 10.2 SCHEMATICS

You can find here attached the following schemes:

- (A) Mechanical Schematic
- (B) Pneumatic Schematic
- (C) Plate locations
- (D) Sharpening Table

**A+AUTOMATION**Via Selva, 23/25 - 47122 Forlì - Italy  
Tel. +39 0543 481142 / Fax. +39 0543 480770  
info@a-plusautomation.com/www.a-plusautomation.com**DICHIARAZIONE CE DI CONFORMITÀ**

2006/42/CE (Allegato II parte A)

**Il sottoscritto, rappresentante il seguente fabbricante**

<i>Costruttore</i>	<b>A-Plus Automation S.r.l.</b>
<i>Indirizzo</i>	<b>Via Selva, 23/25, 47122 Forlì (FC) Italia</b>

**ha incaricato la seguente persona autorizzata a costituire e conservare il fascicolo tecnico**

<i>Nome</i>	<b>A-Plus Automation S.r.l.</b>
<i>Indirizzo</i>	<b>Via Selva, 23/25, 47122 Forlì (FC) Italia</b>

**Il fabbricante dichiara qui di seguito che la macchina**

<i>Denominazione generica / commerciale</i>	<b>A3-P</b>
<i>Funzione</i>	<b>Assemblatrice pneumatica per cornici e telai</b>
<i>Modello</i>	<b>A3</b>
<i>Tipo</i>	<b>A3-P</b>
<i>Matricola</i>	<b>A3.18.xxxx</b>
<i>Anno di costruzione</i>	<b>2019</b>

**risulta in conformità a tutte le disposizioni pertinenti previste dalle seguenti direttive comunitarie (comprese tutte le modifiche applicabili)****2006/42/CE - Direttiva Macchine**

*L'elenco delle principali norme seguite per la parte applicabile e secondo quanto documentato nel fascicolo tecnico, è allegato alla presente dichiarazione.*

Forlì, 02/01/2019.

L'amministratore, Dennis Zavoli

**- LINGUA ORIGINALE -**

**A+AUTOMATION**Via Selva, 23/25 - 47122 Forlì - Italy  
Tel. +39 0543 481142 / Fax. +39 0543 480770  
info@a-plusautomation.com/www.a-plusautomation.com**CE DECLARATION OF CONFORMITY**

2006/42/CE (ATTACHED II part A)

**The undersigned, representing the following manufacturer**

<i>Manufacturer</i>	<b>A-Plus Automation S.r.l.</b>
<i>Address</i>	<b>Via Selva, 23/25, 47122 Forlì (FC) Italia</b>

**has instructed the person authorized to compile and retain the technical file**

<i>Name</i>	<b>A-Plus Automation S.r.l.</b>
<i>Address</i>	<b>Via Selva, 23/25, 47122 Forlì (FC) Italia</b>

**The manufacturer declares that the under mentioned machine**

<i>Generic / Trade name</i>	<b>A3-P</b>
<i>Funzione</i>	<b>Pneumatic frame assembling machine</b>
<i>Model</i>	<b>A3</b>
<i>Type</i>	<b>A3-P</b>
<i>Serial Number</i>	<b>A3.18.xxxx</b>
<i>Year of manufacture</i>	<b>2019</b>

**conforms with all provision applicable under the following EU Directives  
(including all applicable modifications)****2006/42/CE - Machine Directive**

*The list of main standards followed by the applicable part and as documented in the technical file, is attached to this statement.*

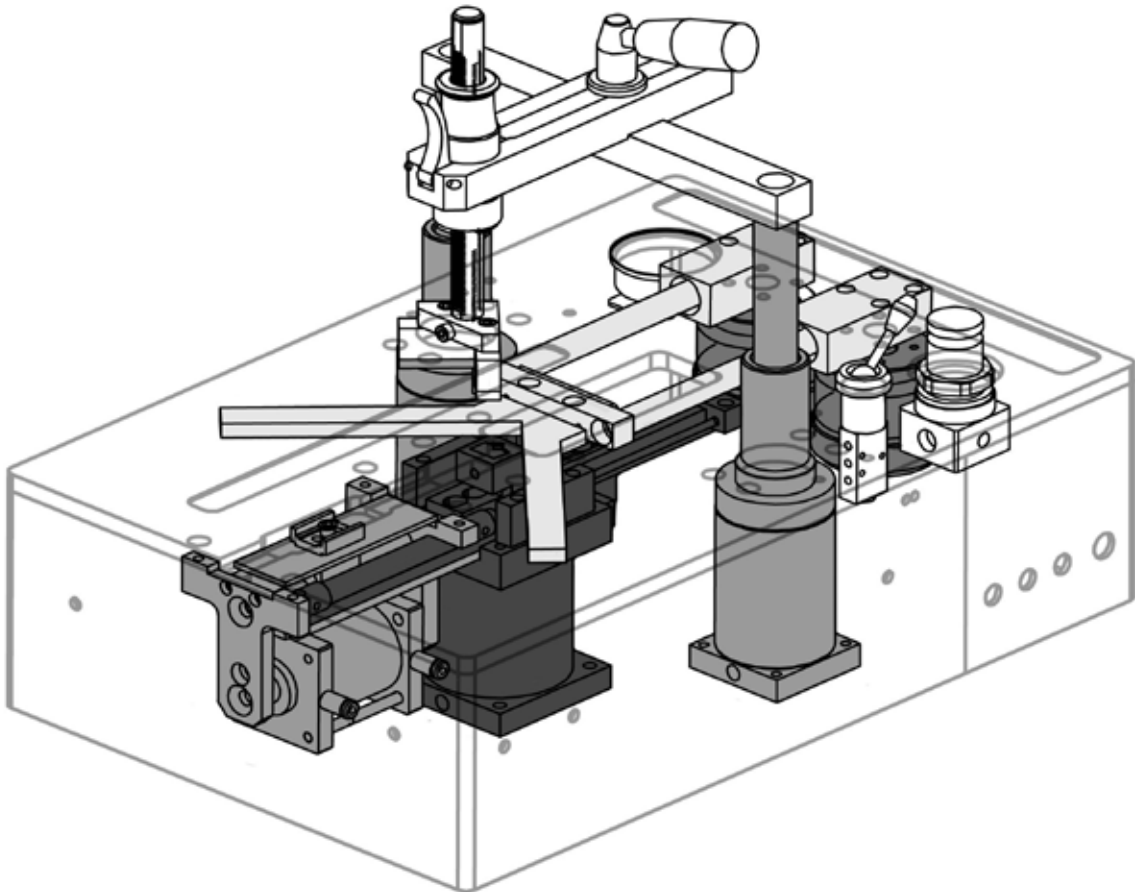
Forlì, 02/01/2019.

The managing director, Dennis Zavoli

**- TRADUZIONE -**

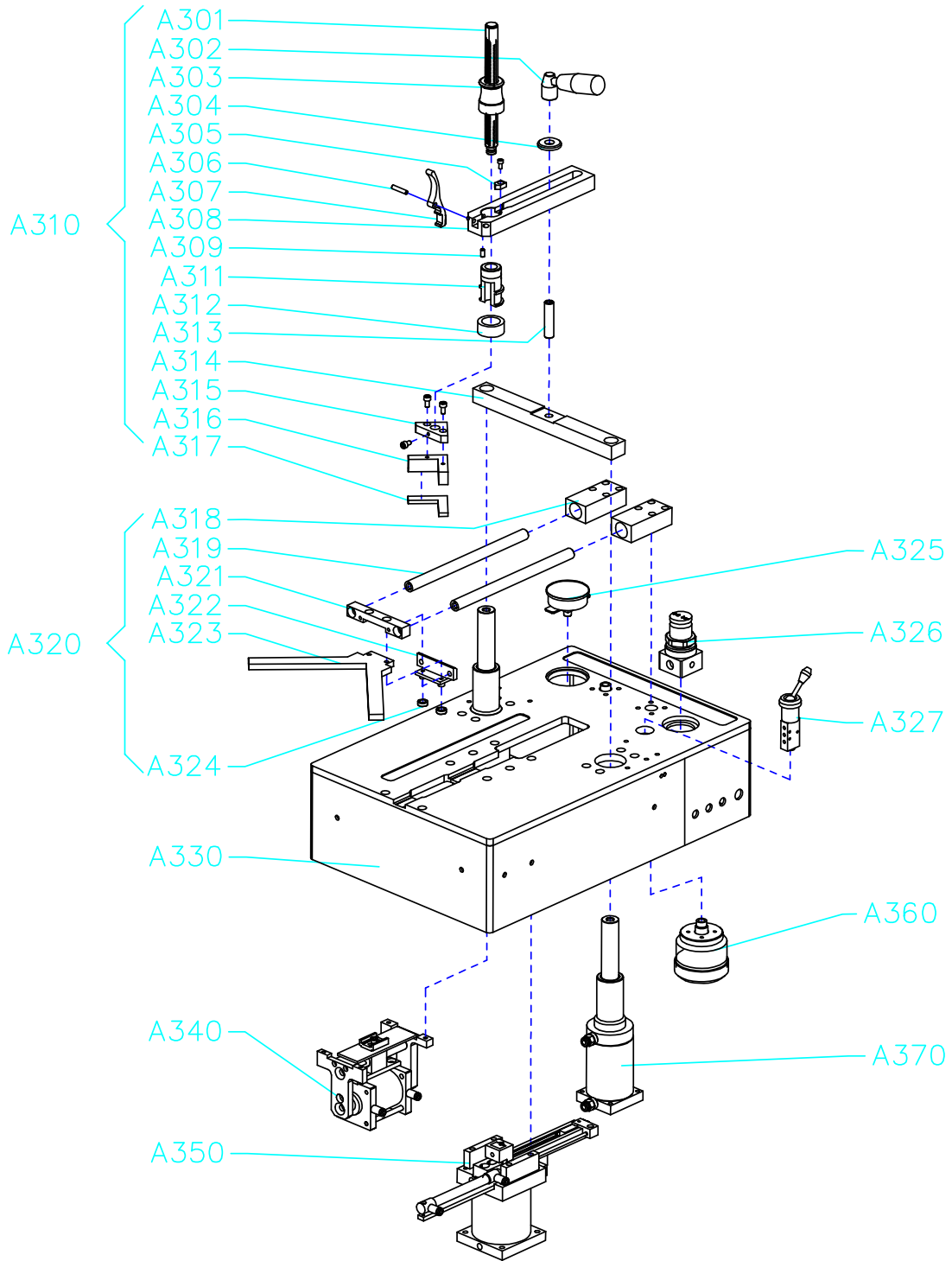
SCHEMES A - Mechanical Schematic

**A+ Automation**



**A-3**

# A+ Automation

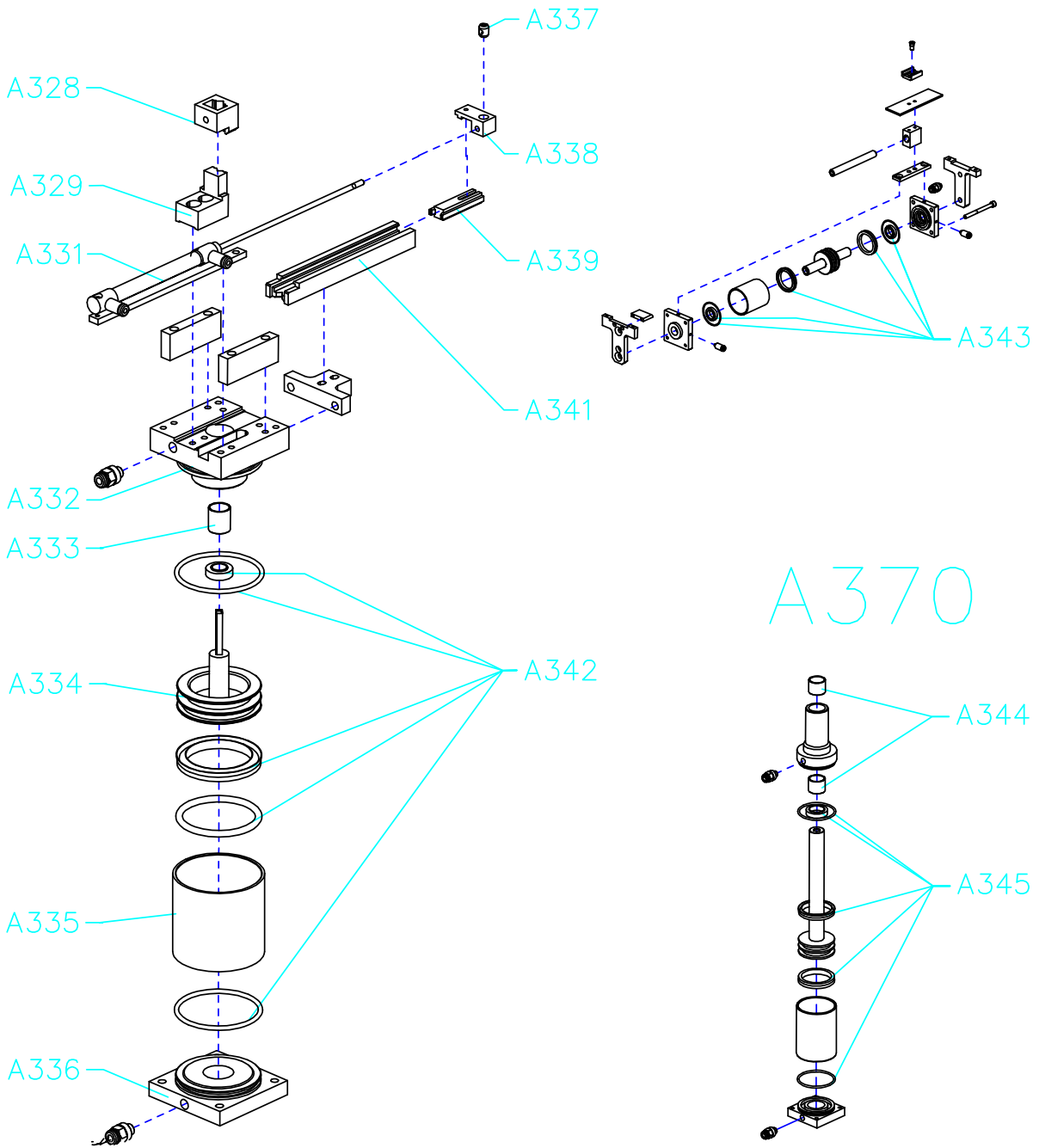


# A-3

# A+ Automation

## A350

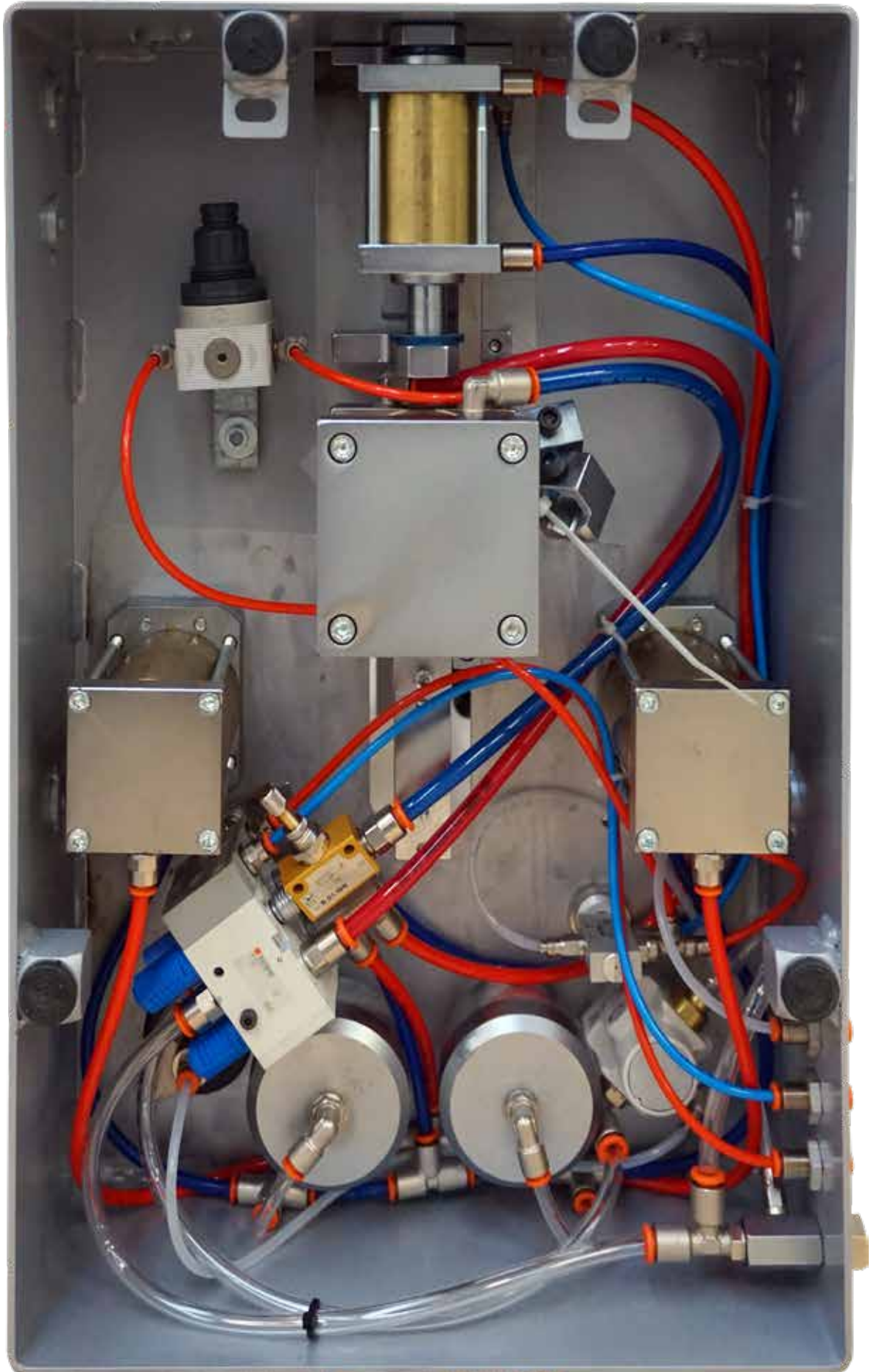
## A340



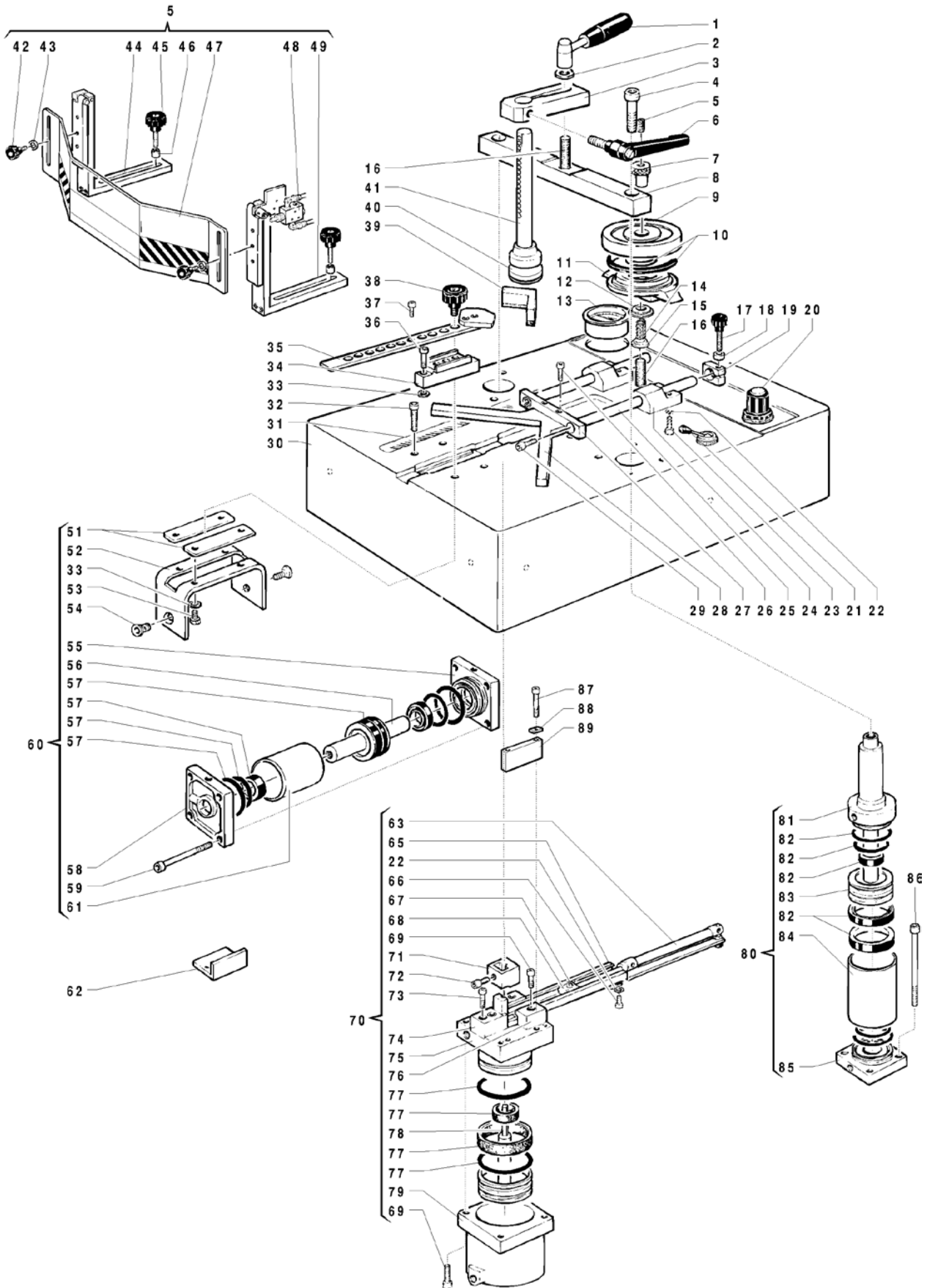
# A-3



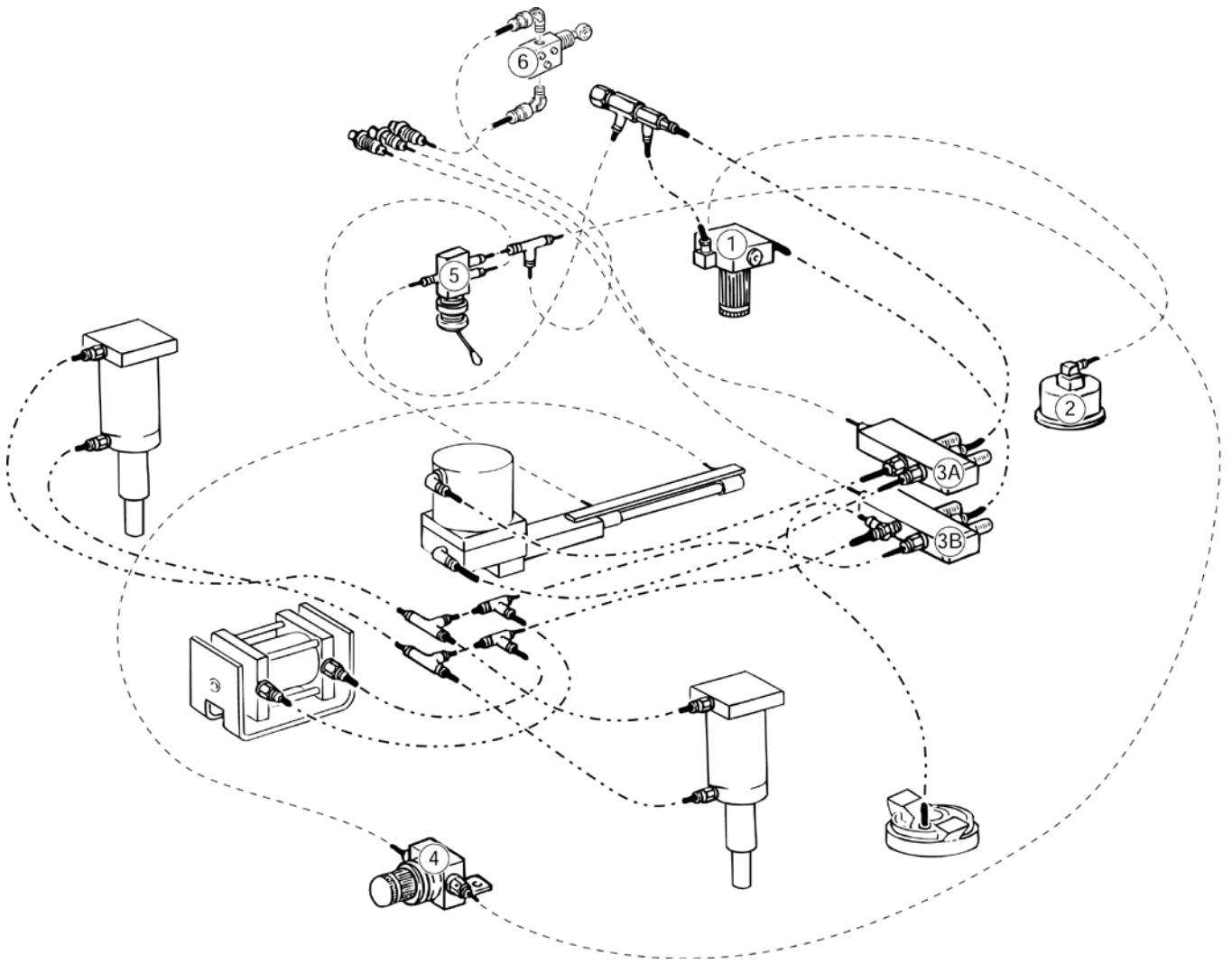
**SCHEMES B - Pneumatic Schematic**



**SCHEMES A - Mechanical Schematic**



**SCHEMES B - Pneumatic Schematic**

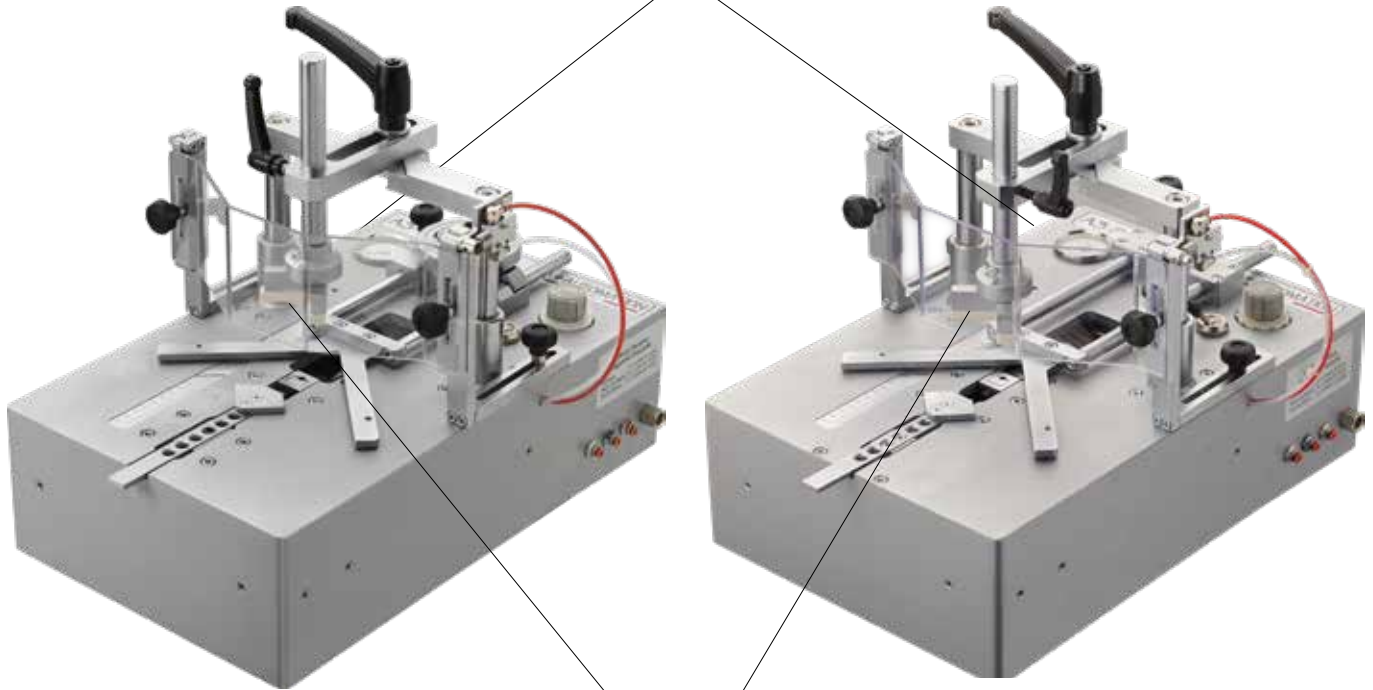


### SCHEME C - Plate locations



**A+AUTOMATION**  
Via Sava, 23/25 47122 Forlì, ITALY

Tipo / Type:	A3-P
Anno di costruzione / Year of construction:	2018
Matricola / Serial Number:	
Peso / Weight:	35 Kg / 77 lbs
Alimentazione pneumatica / Pneumatic feed:	3-6 BAR / 45-90 PSI



**SCHEME D - SHARPENING TABLE**

Height mm	SOFT WOOD			HARD WOOD		
	Very soft wood	Soft wood	Averaged soft wood	Averaged hard wood	Hard wood	Very hard wood
<b>H 03* mm</b>	<>	<>	<>	MW	MW	MW
<b>H 05* mm</b>	MW	MW	MW	MW	MW	MW
<b>H 07 mm</b>	SW	SW	MW	MW	MW	HW
<b>H 10 mm</b>	SW	SW	MW	MW	HW	HW
<b>H 12 mm</b>	SW	SW	MW	HW	HW	HW
<b>H 15 mm</b>	SW	SW	MW	HW	HW	HW

\* Wedges available only on customer's request for specific order quantities (to be confirmed).

SW Suitable for soft wood such as: Cedar, Pine, Bass, Banak, Obeche, Poplar  
Other materials: Vertical Grain MDF

MW Suitable for soft wood such as: Cedar, Cherry, Oak, Ramin, Poplar, Maple, Pine  
Other materials: Vertical grain MDF, Polystyrene, PVC

HW Suitable for soft wood such as: Oak, Ash, Hickory, Pecan, Maple, Cherry, Ramin  
Other materials: Horizontal grain MDF

	<b>In order to stack 2 or more Wedges per junction, use Wedges coded MW or HW.</b>
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A-Plus Automation s.r.l.  
Via Selva, 23/25  
47122 - Forlì (FC) Italy

Phone +39 0543 481142  
Fax +39 0543 480770  
Email [info@a-plusautomation.com](mailto:info@a-plusautomation.com)  
Web [www.a-plusautomation.com](http://www.a-plusautomation.com)

**A+AUTOMATION**  


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