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**MACHINE**

**DOUBLE MITRE CUT OFF**

for frames

mod.

**C6 S**

**INSTRUCTION BOOKLET**

MAY 1990

## **MITRE CUT OFF MACHINE MOD. C6 S**

### **INSTRUCTION FOR USE**

#### **1 - INTRODUCTION:**

C6 S is a pneumatic double mitring machine for 45° degrees cuts, at both ends, in mouldings of any shape and kind (all woods-aluminium covered, etc.) by means of 2 circular carbide saw blades from 250 mm. (9 13/16") up to 350 mm. (1' 13/4") (size bore 32 mm./1 1/4"). Covered in order to exhaust the saw dust. Low noise. High speed operation. Precise graduate scale to gage at the rabbet of the mitered mouldings. Easy and fast adjust.

#### **2 - TECHNICAL CHARACTERISTICS:**

Max cutting capacity: ..... Blade 250 mm. (9 3/16"), width 50 mm. (2"); height 165 mm. (6 1/2");  
..... Blade 300 mm. (11 13/16"), width 70 mm. (2 3/4"); height 140 mm. (5 1/2");  
..... Blade 350 mm. (1' 13/4"), width 90 mm (3 1/2"); height 115 mm. (4 1/2").

Production rate: ..... 500-600 cuts per hour (it varies with operator and mouldings dimensions)

Electric equipment: ..... 2 motors of 2 Hp each; 2800 RPM; Voltage 220 or 380 V 3 phases (single phase  
..... and other voltages on request); Electric consumption max 3 KW; 50 or 60 Hz.

Compressed air: ..... 6 bar; consumption 27,6 NI/Cycle and about 410 NI/Min.

Sawdust exhaust outlet: ..... N° 2, diameter 100 mm. (4").

Weight: ..... 450 Kg. (990 Lbs);

Overall dimensions: ..... Width 820 mm. (2' 8 1/4"); Length 750 mm. (2' 5 1/2"); Height 1550 mm. (5' 1").

#### **3 - ASSEMBLY INSTRUCTIONS:**

- a) - Fix the moulding supporting arms (pict. 1-5) to the left and right side of the machine by means of their own hexagonal headed bolts.
- b) - Set the adjustable holding legs (pict. 1-3) on the supporting arms so arms can reach the same level of the working table.
- c) - Fix the hand wheel (pict. 1-22) to its proper place in front on the machine.
- d) - Fix right aluminium guide (pict. 1-17) and sliding stop (pict. 1-16) to its proper support.
- e) - Connect the air and oil filter to the compressed tube.
- f) - Connect the machine to the electrical source (check machine voltage and cycles of the motors before doing that).
- g) - Be sure that motors sense of rotation is correct (right motor clockwise, left motor anti-clockwise rotation).
- h) - Put the blades on, following the instructions of "Mechanical Adjustments".
- i) - Press the pedal (pict. 1-18), or the palm buttons (optionals), and be sure that the vertical cylinders (optionals), on special models, block the moulding before blades come down.
- l) - Connect the two saw dust exhaust outlets situated on the back of the machine to a dust remover.

#### **4 - HOW THE MACHINE WORKS:**

Pressing the pedal (pict. 1-18) or the two palm buttons (optionals) the machine performs the following operations:

- a) The clamping unit goes down (optional) and block the mouldings against the aluminium guides;
- b) The circular saw blades move forward and cut the moulding.

Relieving the pedal or the two palm buttons the machine performs the following operations:

- c) The circular saw blades and clamping unit go back to their rest position;

#### **5 - PNEUMATIC ADJUSTMENTS:**

- 5.1 - To change air pressure to the machine regulate the air line regulator situated on the right side of the machine (pict. 1-19).
- 5.2 - The flow regulation valve (pict. 1-1), situated on the right side of the machine, adjust the down stroke of the saw blades.
- 5.3 - To change air pressure of clamp cylinders adjust the air line regulator of pict. 5-5 (optional).

#### **6 - BLADES REPLACEMENT:**

C6 S uses 250 mm. (9 3/16") - 300 mm. (11 13/16") - 350 mm. (1' 13/4") circular saw blades to change them follow procedure:

- a) - Switch the line off;
- b) - Remove the protective shield (pict. 1-25);
- c) - Unscrew the blades blocking bolt (pict. 3-9) in the blades running direction;
- d) - Place the new blades;
- e) - By mean of the winder (pict. 2-15) move backward of forward the blades to reach the right position (very close one to the other without touching themselves).

Be sure that turning manually the blades they don't touch each other.

N.B. Remember always to remove the winder (pict. 2-15) from its slot. Otherwise during the vertical movement of the blades head, the winder would touch against the back saw dust shield and it would break.

#### **7 - MECHANICAL ADJUSTMENTS:**

##### **7.1 - Cutting adjustments:**

If there are any defects in cut it's possible to reach the finest regulation following this procedure:

- a) Loose blade support head blocking bolts;
- b) Keep the pedal pressed and leaned the 90° degrees gauge against the circular blades;
- c) Move clockwise or anticlockwise the knob (pict. 2-13) to find the 45 ° position between blades and gauge;
- d) Tight blade support head blocking bolts.

The miter saw C6 S is studied so that it can accept, circular blades of 250-300 and 350 mm. It is advised to use blades of 250 mm. to cut mouldings up to 40 mm. width, 300 mm. to cut mouldings up to 60 mm. width, and 350 mm. to cut mouldings up to 80-90 mm. width.

N.B. Pay attention that the adjustable guides (pict. 1-7 and 1-17), moved by mean of the hand wheel (pict. 1-22), must not be set further the maximum cutting it's possible to damage them during the working movement of the C6 S. We advise to move the adjustable guides only when the circular blades are in the low position (pedal pressed).

By means of the winder it's possible to shift the head in which the circular blade is placed. This allows operator to change or place different blades in a very precise and fast system avoiding the need of further adjustments.

#### 7.2 - Linearism of adjustable guides:

Be always sure that the adjustable guides are perfectly linear one respect to the other. Check this, pushing against the guides the aluminium angle gauge. To correct their position follow these operations:

- a) - Loose the four screws that tight the adjustable guide support (pict. 2-16) to find its correct position (one perfectly linear with the other).
- b) - Move the adjustable guide to find its correct position (one perfectly linear with the other).
- c) - Tighten in this position the four screws of the adjustable guide support.

#### 7.3 - Motor belts:

It is possible to modify a little bit the distance between the electric motor and the blades spindle so that to tighten more or less the belt itself. To do so, tun right or left the screws of picture.

#### 7.4 - Blade's height:

The wheel valve (pict. 5-11) situated on the lower back side of C6 S and mounted on a column by means of a wheel valve support can be moved upwards or downwards so that to stop the raising stroke of the machine where it is requested.

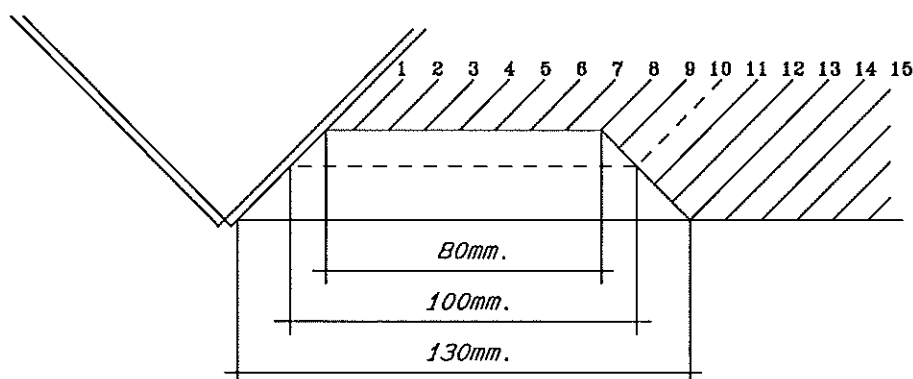
### **8 - SAFETY DEVICE:**

For safety reasons, raising the protective shield or without air pressure JUNIOR 275 automatically stops running. To start the machine again set shield to their original position and press black electric button.

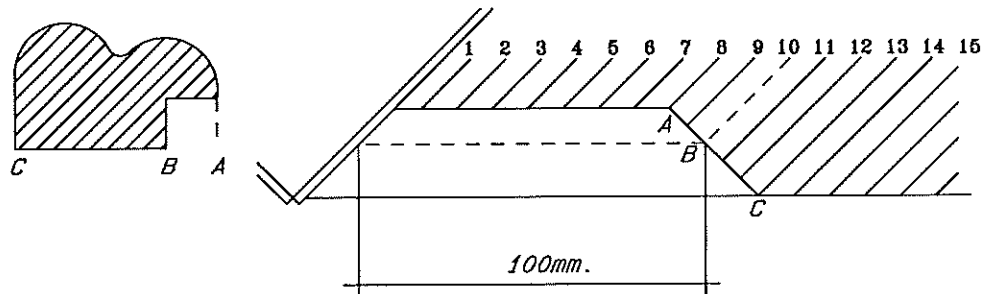
### **9 - MOULDINGS MEASURING SYSTEM:**

This measuring system is simple to use and permits to measure the length along the edge of any size of moulding.

The lines on the measuring tape are parallel to the right blade. The intersection of each line with the right edge of the moulding, meets the measure read on the line, at same width.



In case you are cutting a moulding with passepartout (for picture-photo frames) at 100 mm., you must slide the moulding on the guide, until point "B" reaches the 10 line.



### **10 - MAINTENANCE:**

Check monthly:



a) Greasers (pict. 2-8) of columns;



b) The compressed air condensation in the proper glass. To eliminate the water turn clockwise screw situated in the bottom of the glass;



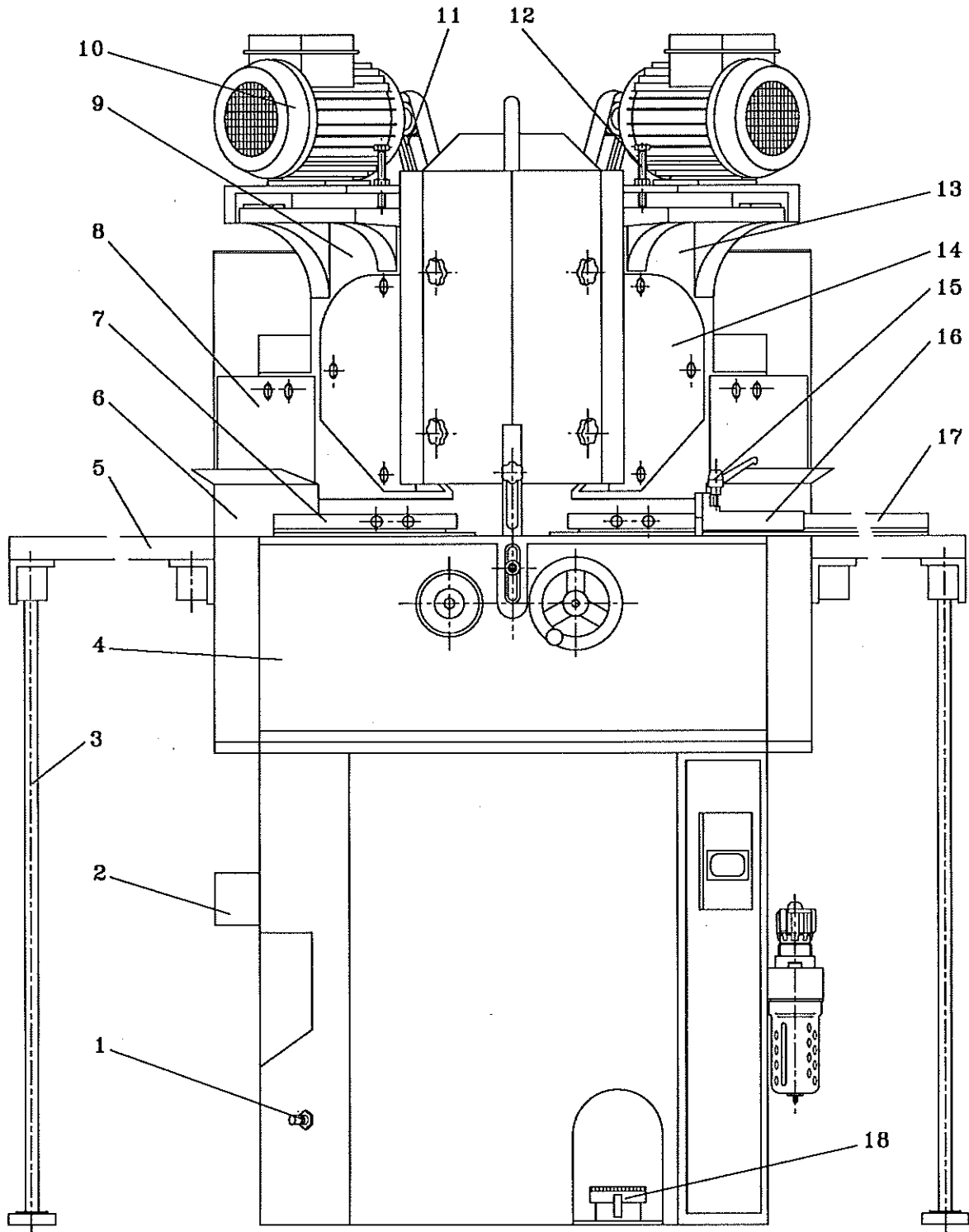
c) The level of the pneumatic oil. Use very low viscosity oil such as BP HLP 46 ISO. If pneumatic oil consumption is too high turn clockwise screw situated on the top of the oil glass. Do not tighten it otherwise oil can not pass through end cylinders gaskets may be damaged.

OPERATING FAULT	POSSIBLE CAUSE	REPAIRS
Pressing black button of main switch motors do not start.  or  During cutting operation motors stop running.	Thermal relais adjusted towards lower amperage.	Remove electric box front cover and turn scale amperage towards higher amperage.
	Electropneumatic transducer does not work.	Check machine is connected to air pressure source and air arrives to the air switch.
	Front cover do not press air microswitch.	Check if air microswitch is activated when front cover is lowered.  Check if vibrations disactivate microswitch because front cover is not properly fixed.
	Electric fault.	Call the electrician to define what kind of electric fault is present in the machine.

**Picture 1**

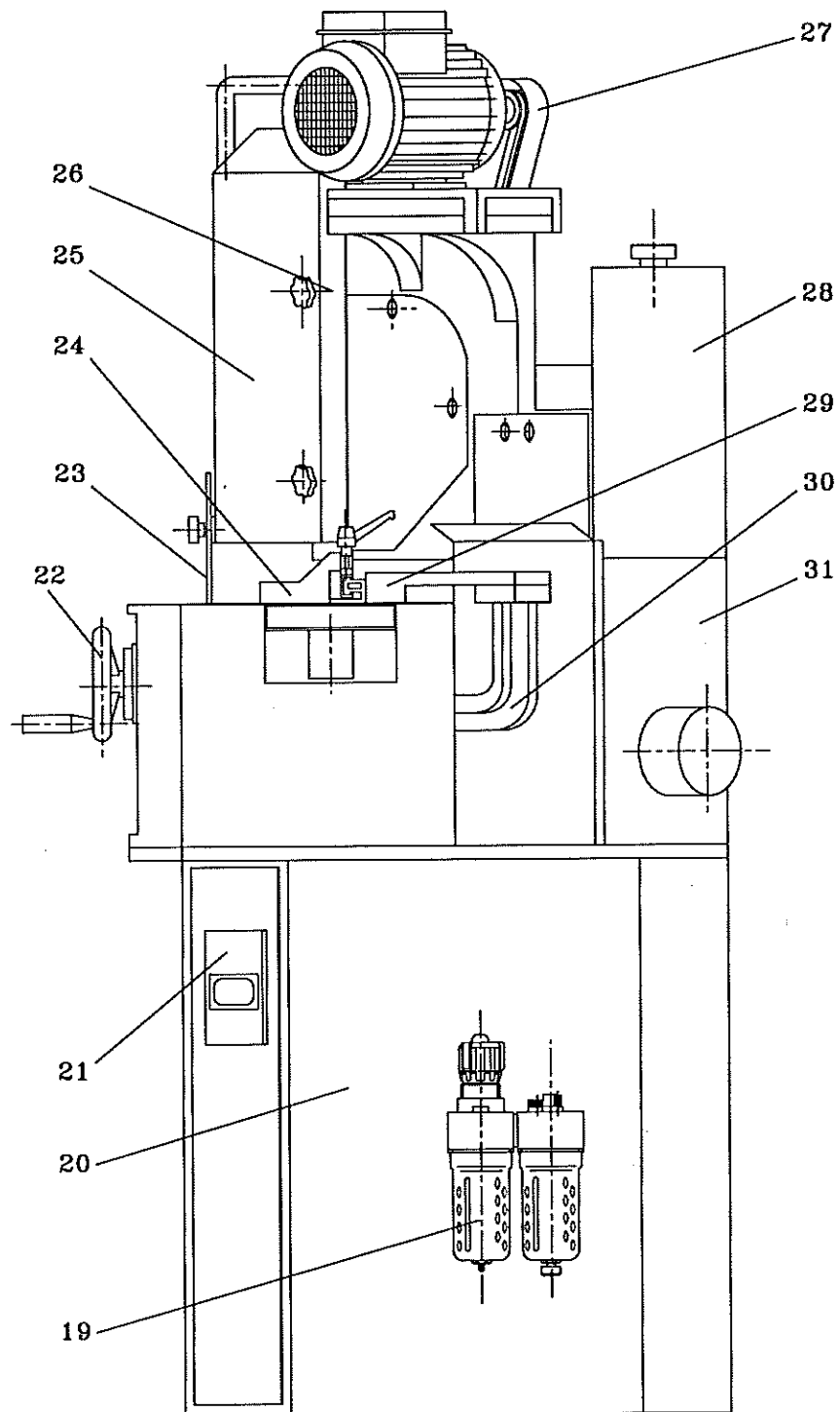
<u>Pos.</u>	<u>Description</u>	<u>Code</u>		
1	Air flow regulation valve .....	VRF/3	○	☆
2	Tools box .....	TY00104	○	
3	Supporting leg .....	T600131	○	
4	Upper working table .....	T060229S	■	
5	Left arm .....	T600103	○	
6	Safety sheet .....	T61119	■	
7	Left aluminium guide .....	T600104	○	
8	Rubber shield .....	T61121	○	
9	Complete left blade support head .....	T060252S	○	
10	Three phases electric motor 2 Hp .....	see pict. 9		
11	Transmission belt .....	T600109	○	☆
12	Adjusting belt tension screw .....	T600113	○	☆
13	Complete right blade support head .....	T060252D	○	
14	Right blade safety sheet .....	T61126	○	
	Left blade safety sheet .....	T61127	○	
15	Quick lock .....	TY00255	○	☆
16	Complete sliding stop support .....	TY00116	○	
17	Right aluminium guide .....	T600118	○	
18	Foot operated valve .....	P54SP	○	☆
19	Air filter, regulator and lubricator unit .....	TFRUL3	○	☆
20	Metal base .....	T600102	■	
21	Main switch .....	see pict. 9		
22	Hand wheel .....	T600133	○	☆
23	Adjustable safety shield .....	T61105	○	
24	Sliding stop .....	TY00256	□	
25	Safety shield .....	T600111	○	
26	Adjustable blade safety sheet .....	T61108	□	
27	Transmission belt cover .....	T600110	○	
28	Upper back cover .....	T600114S	■	
29	Right adjustable guide support (higher part) .....	T600106D	○	
	Left adjustable guide support (higher part) .....	T600106S	○	
30	Right adjustable guide support .....	T61113D	○	
	Left adjustable guide support .....	T61113S	○	
31	Lower back cover .....	T600114I	■	

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Picture 1A



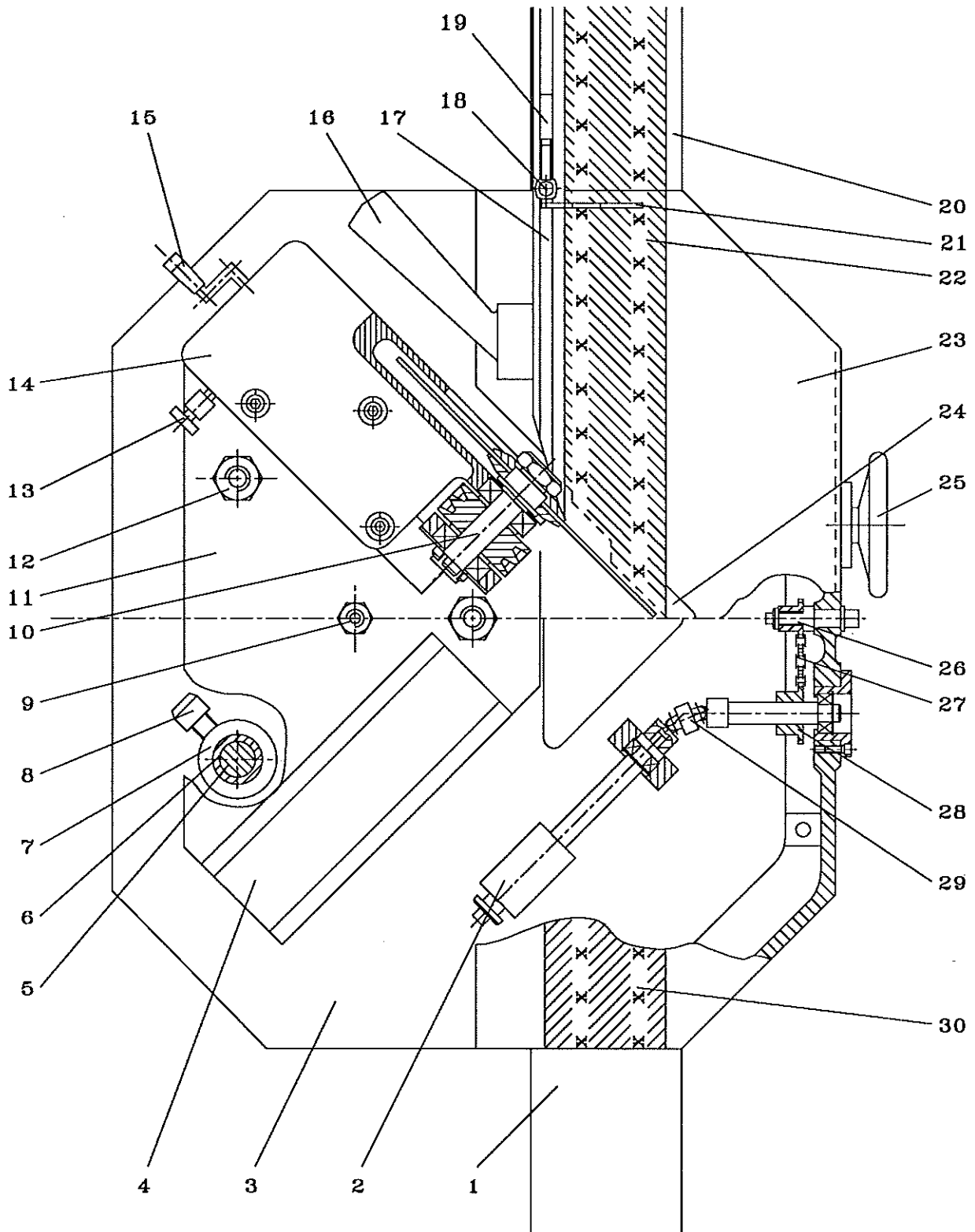


Picture 1B

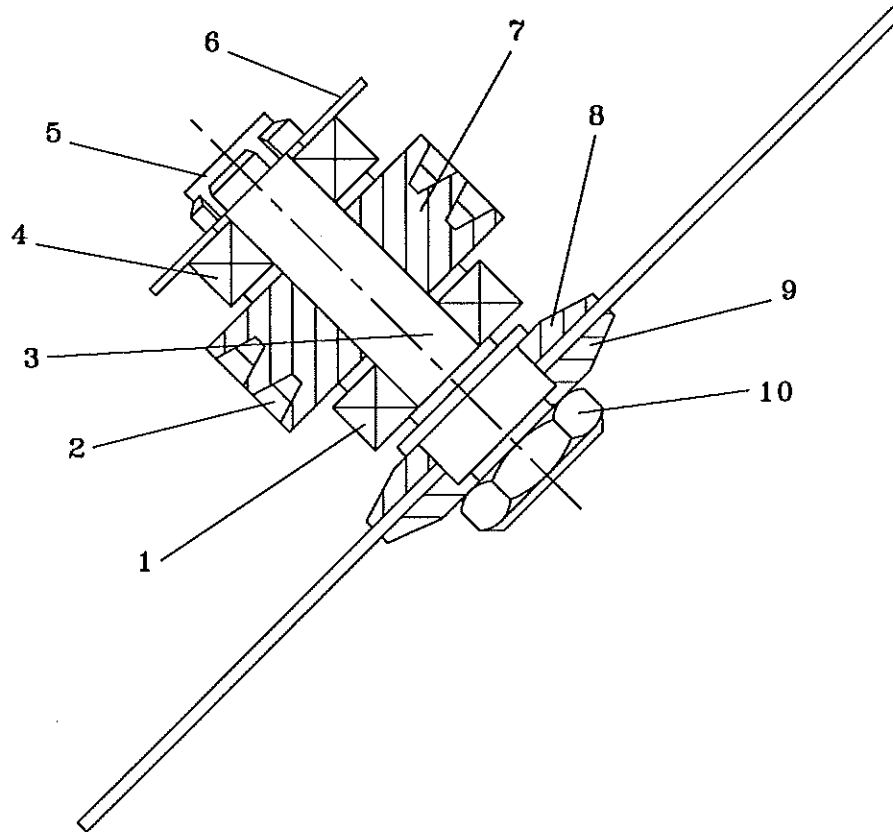
**Picture 2**

<u>Pos.</u>	<u>Description</u>	<u>Code</u>		
1	Left arm .....	T600103	○	
2	Aluminium guide carriage .....	T060208	○	
3	Lower working table .....	T060229I	■	
4	Swallow tailed support .....	T060204	■	
5	Column .....	T060327	□	
6	Bush .....	T060202	□	
7	Sleeve .....	T060201	○	
8	Greaser .....	T060256	○	☆
9	Cylinder bar nut .....	T060249	○	
10	Blade holder shaft .....	see pict. 3		
11	Supporting heads triangle form plate .....	T060207	■	
12	Blocking column nut .....	T060320	○	☆
13	Adjusting angle knob .....	T060253	○	☆
14	Complete right blade support head .....	T060252D	○	
15	Winder .....	T060255	○	☆
16	Right adjustable guide support (higher part) .....	T600106D	○	
	Left adjustable guide support (higher part) .....	T600106S	○	
17	Right aluminium guide .....	T600118	○	
18	Quick lock .....	TY00255	○	☆
19	Complete sliding stop support .....	TY00116	○	
20	Right arm .....	T600103	○	
21	Sliding stop .....	TY00256	□	
22	Right side measuring tape .....	RM102	○	
23	Upper working table .....	T060229S	■	
24	Left aluminium plate .....	T060230D	○	
	Right aluminium plate .....	T060230S	○	
25	Hand wheel .....	T600133	○	☆
26	Tightening chain pinion .....	T060225	○	
27	Chain .....	T060218	○	
28	Pinion for chain z18 .....	T060219	○	
29	Universal joint for movable carriage .....	T060215	○	
30	Left side measuring tape .....	RM101	○	

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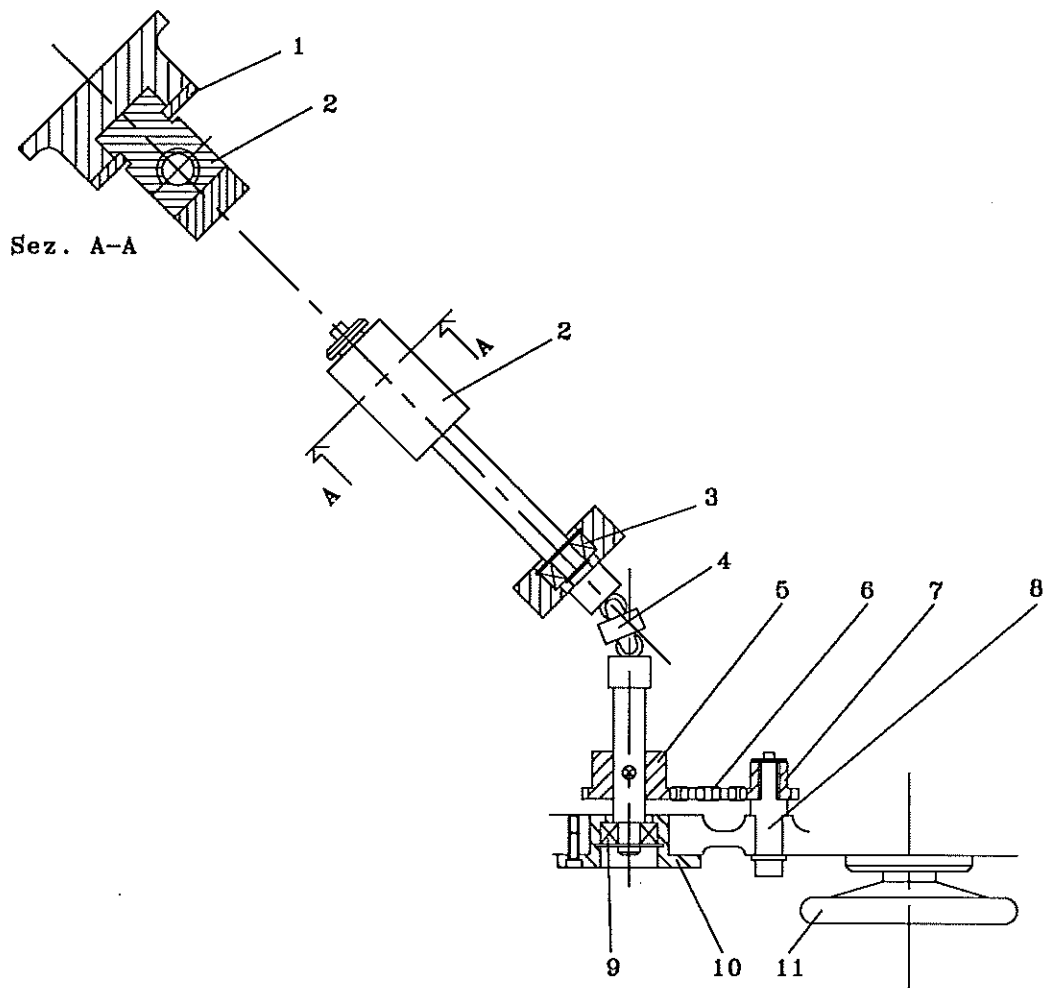
Picture 2



**Picture 3: Blade holder shaft system**

<b>Pos.</b>	<b>Description</b>	<b>Code</b>		
1	Blade holder shaft bearing SKF 6204-2RS1 .....	T060233	○	☆
2	Transmission belt .....	T060109	○	☆
3	Right blade holder shaft .....	T600120D	○	
	Left blade holder shaft .....	T600120S	○	
4	Blade holder shaft bearing SKF 6204-2RS1 .....	T060233	○	☆
5	Right internal blocking blade nut Ø 30 .....	T060243D	○	
	Left internal blocking blade nut Ø 30 .....	T060243S	○	
6	Blocking bearing plate .....	T060242	○	
7	Idle pulley .....	T060236	○	
8	Internal blocking blade plate .....	T060232	○	
9	External blocking blade plate .....	T060239	○	
10	Right blocking blade nut Ø 36 mm. ....	T060115D	○	
	Left blocking blade nut Ø 36 mm. ....	T060115S	○	
	Right blade holder shaft system .....	T0601D	○	
	Left blade holder shaft system .....	T0601S	○	

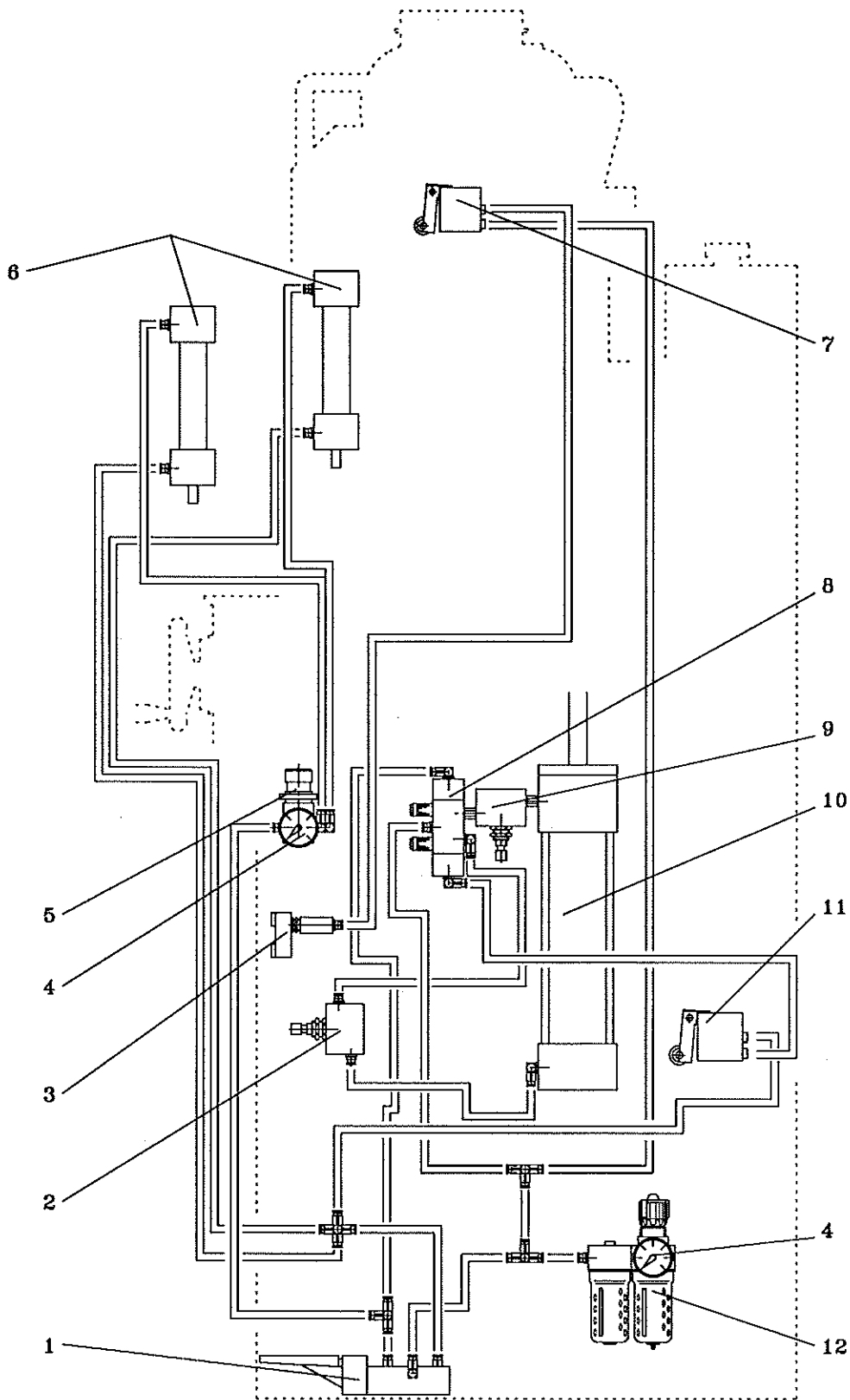
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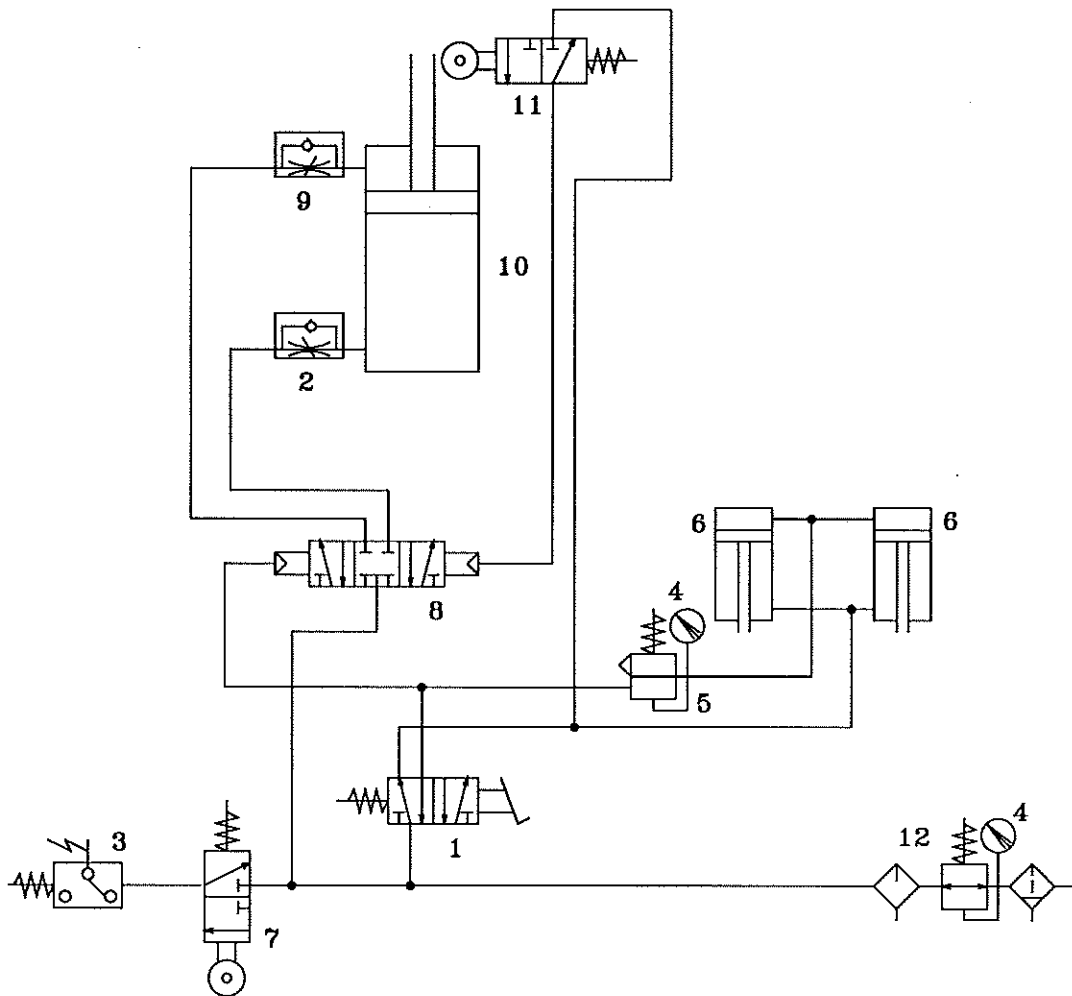
**Picture 4**

<u>Pos.</u>	<u>Description</u>	<u>Code</u>	
1	Adjustable aluminium guide carriage .....	T060206	□
2	Aluminium guide carriage .....	T060208	○
3	Bearing for movable carriage screw .....	T060213	□
4	Universal joint for movable .....	T060215	○
5	Pinion for chain z 18 .....	T060219	□
6	Chain 3/8" .....	T060218	○
7	Tightening chain pinion z 11 .....	T060226	□
8	Tightening chain screw .....	T060225	○
9	Bearing RIV AL15 for pinion holder shaft .....	T060221	□
10	Guide for pinion holder shaft .....	T060220	○
11	Hand wheel .....	T060224	○ □
	Complete system (n° 2, 3, 4, 5, 6, 7, 8, 9 and 10) .....	T0602	○

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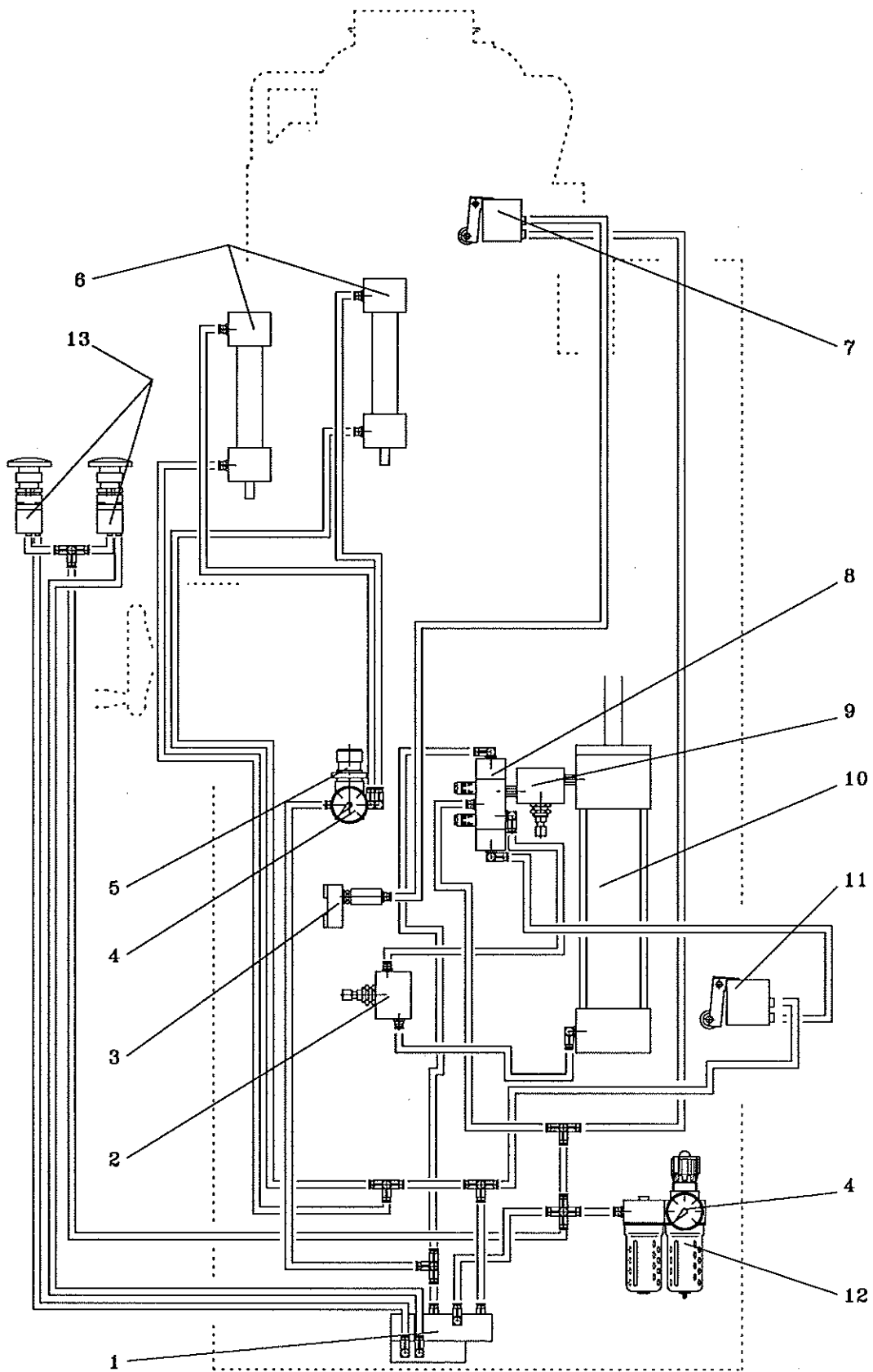
Picture 5



**Picture 5 and 6: Pneumatic system**

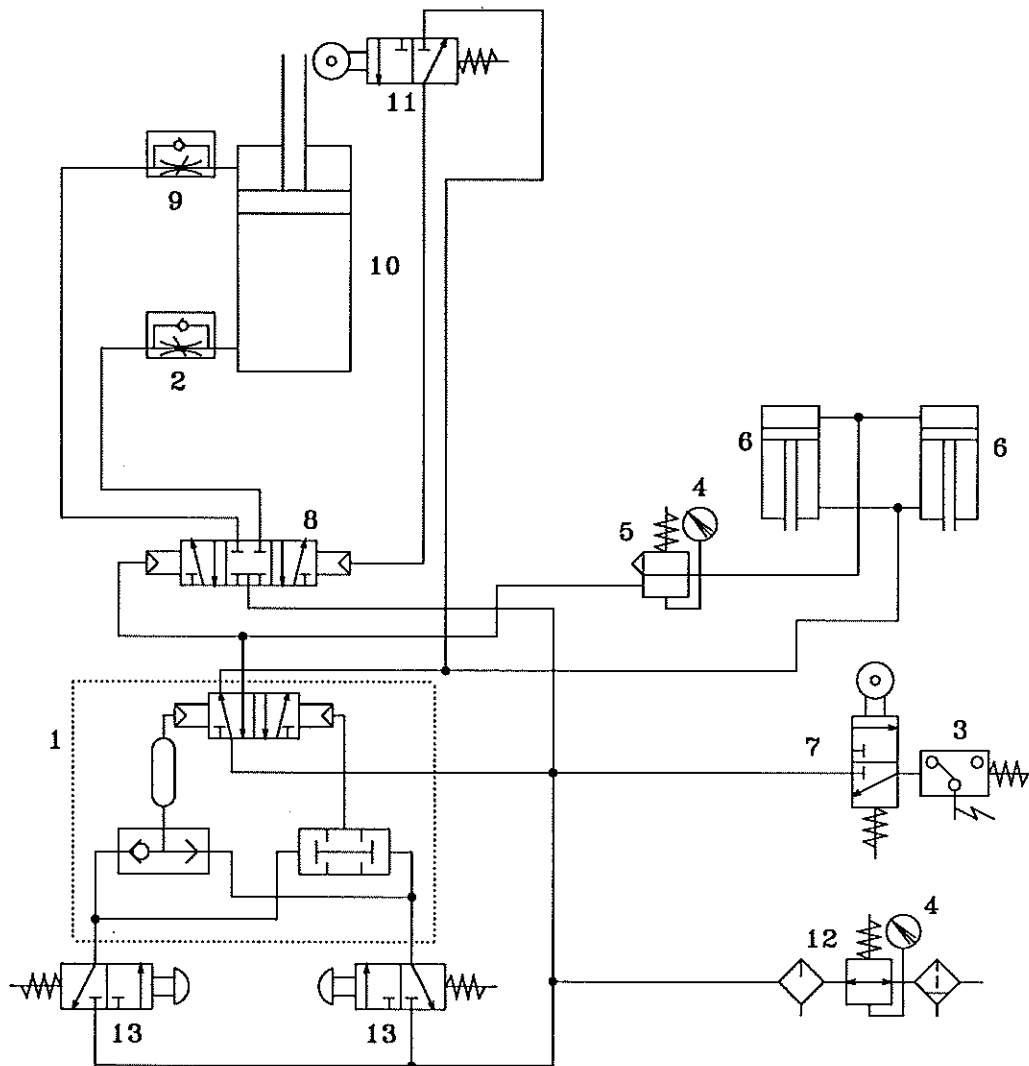
<u>Pos.</u>	<u>Description</u>	<u>Code</u>		
1	Foot operated valve .....	P54SP	○	☆
2	Air flow regulator, 3/8" .....	VRF/3	○	☆
3	Electropneumatic transducer, 2 bar .....	70124	○	☆
4	Gauge .....	M012	○	☆
5	Air pressure regulation valve, 1/4" (optional) .....	VSR/4	○	☆
6	Clamp cylinder (optional) .....	MI20x80	○	
7	Stroke end valve, 1/8" .....	308MR	○	
8	5 ways valve, normally centre, 1/4" .....	V54CC	○	
9	Air flow regulator, 3/8" .....	VRF/3	○	☆
10	Blade sliding cylinder .....	T100x300	○	
11	Stroke end valve, 1/8" .....	308MR	○	
12	Air filter, regulator and lubricator unit .....	TFRUL3	○	☆

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Picture 7

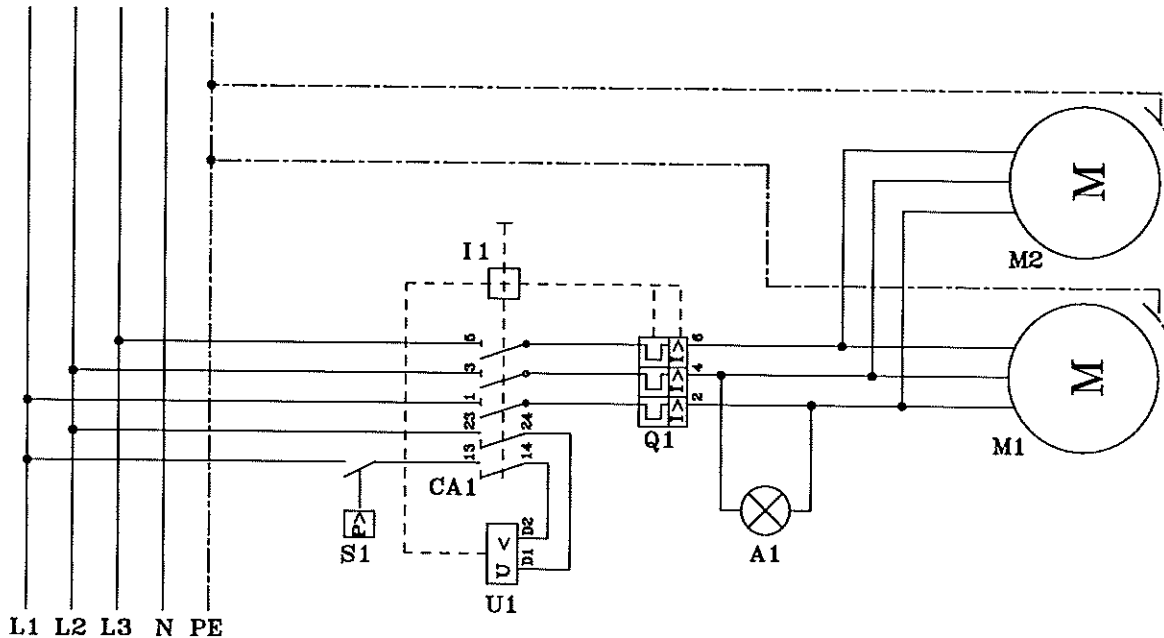




**Picture 7 and 8: Pneumatic system**

Pos.	Description	Code	
1	5 ways hand button valve (with safety device), 1/4"	V54BM	○
2	Air flow regulator, 3/8"	VRF/3	○ ☆
3	Electropneumatic transducer, 2 bar	70124	○ ☆
4	Gauge	M012	○ ☆
5	Air pressure regulation valve, 1/4" (optional)	VSR/4	○ ☆
6	Clamp cylinder (optional)	MI20x80	○
7	Stroke end valve, 1/8"	308MR	○
8	5 ways valve, normally centre, 1/4"	V54CC	○
9	Air flow regulator, 3/8"	VRF/3	○ ☆
10	Blade sliding cylinder	T100x300	○
11	Stroke end valve, 1/8"	308MR	○
12	Air filter, regulator and lubricator unit	TFRUL3	○ ☆
13	Hand button valve, 1/8"	308MF	○

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**Picture 9: Electric system**

<u>Pos.</u>	<u>Description</u>	<u>Code</u>	
S1	Electropneumatic transducer X01-E1 20A 380V 2 bar .....	70124	<input type="radio"/>
I1	Manual motor starter switch (Q1) with coil (U1) and switch advanced auxillary contacts (CA1) .....	(*)	
A1	ON-OFF light .....	SL220	<input type="radio"/>
M1	Three phases electric motor 2 Hp (**)	MEC90	<input type="radio"/>
M2	Three phases electric motor 2 Hp (**)	MEC90	<input type="radio"/>
(*) Use following codes for eventuals orders:			
	220 V 50 Hz three phases .....	GV1M20Q06	<input type="radio"/>
	240 V 60 Hz three phases .....	GV1M20Q06	<input type="radio"/>
	380 V 50/60 Hz three phases .....	GV1M14Q06	<input type="radio"/>
	415 V 50 Hz three phases .....	GV1M14Q06	<input type="radio"/>
	440 V 60 Hz three phases .....	GV1M14Q06	<input type="radio"/>
	500 V 50 Hz three phases .....	GV1M10Q06	<input type="radio"/>
	660 V 50 Hz three phases .....	GV1M10Q06	<input type="radio"/>
(**) Specify voltage (V) and frequency (Hz) of the required line			
	Complete electric box .....	QEC6	<input type="radio"/>

interchangeable     to adapt     not supplied alone     not supplied