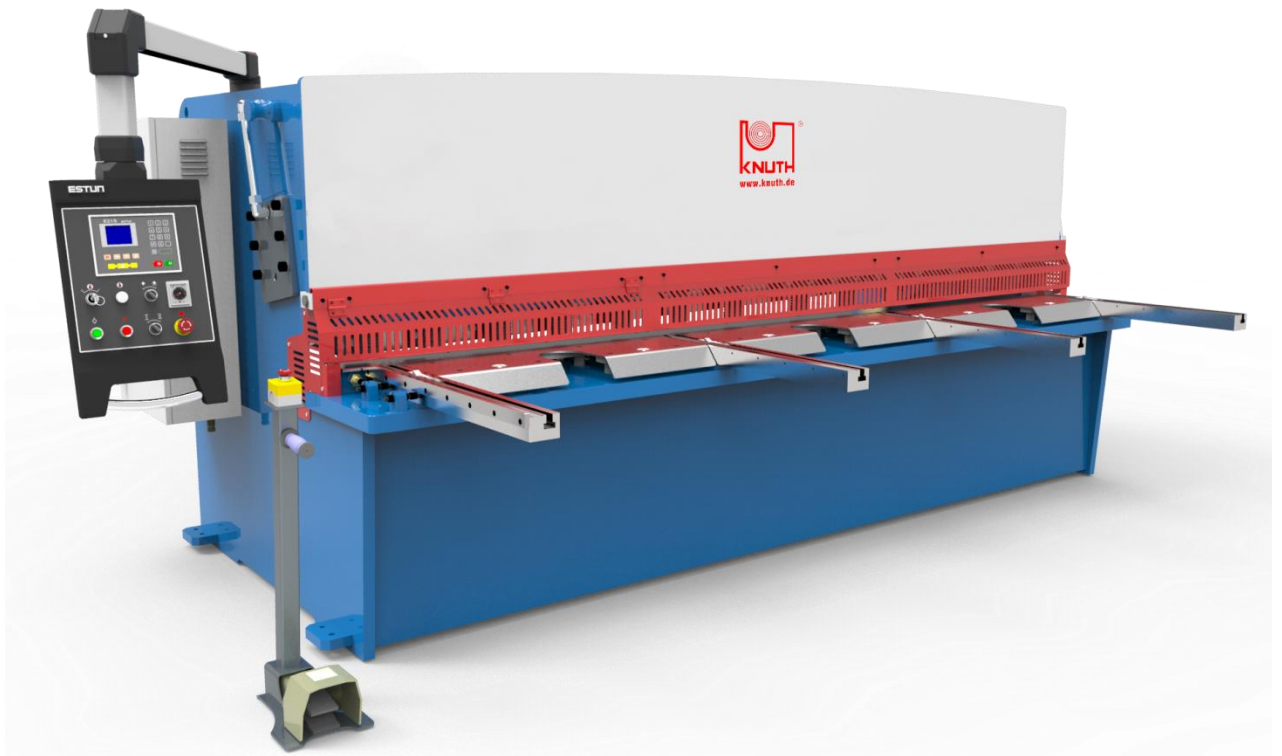


KHT 3206M hydraulic shearing machine

Operation Instruction



Contents

1	Foreword	3
2	Summary.....	4
2.1	Vocabulary of terms	4
2.2	The Use and Characteristics of the Machine:	5
2.3	Use environment condition.....	6
2.4	Caution	6
2.5	Security advice.....	6
3	Machine structure and working principle	7
3.1	Machine structure	7
3.1.1	Machine shape	7
3.1.2	Machine structure general view	8
3.1.3	Machine structure outline.....	9
3.2	Working principle introduction	11
3.3	Technical parameter.....	12
4	Hydraulic system	13
4.1	Hydraulic system layout	13
4.2	Hydraulic principle diagram	14
4.3	Layout diagram.....	15
5	Electrical system	17
5.1	principle diagram.....	17
6	Transport and storage	23
6.1	Notice Items of Swing and Transportation.....	23
6.2	Notice Items of storage	24
7	Preparation before Installation and use.....	24
7.1	The basis of machine (groundwork).....	24
7.2	Foundation drawing	25
7.3	The adjustment of machine tool level.....	26
7.4	Hydraulic oil.....	27
7.4.1	hydraulic oil selection	27
7.4.2	Tank Cleaning	27

7.4.3	The addition of hydraulic oil	28
7.5	Electric wiring	29
8	Use、adjustment	30
8.1	The adjustment of back gauge location	30
8.2	The adjustment of bracket tray ahead.....	30
8.3	The adjustment of blade clearance.....	30
8.3.1	Adjusting ways of blade clearance.....	31
8.4	Blade teardown, tool edge change,tool change, and installation.....	31
9	Precision adjustment.....	32
9.1	blade parts clearance adjustment (blade clearance evenness)	32
9.1.1	blade parts clearance adjustment principles:	33
9.1.2	Adjusting ways:	33
9.1.3	blade part clearance adjusting figure.....	34
9.2	Precision adjustment of back gauge	35
10	Care and maintenance	37
10.1	Machine lubrication	37
10.2	Hydraulic system maintenance	38
10.2.1	Hydraulic oil.....	38
10.2.2	Oil filter (Hydraulic oil filter)	38
10.2.3	Air Filter (air filter cleaner)	38
10.2.4	Connection of hydraulic components	38
10.2.5	Hydraulic components	39
10.3	Nitrogen return cylinder system maintenance(Check pressure, release nitrogen, crush in nitrogen) 39	
10.3.1	Charge(supply) gas	39
10.4	Maintenance of mechanical parts.....	41
10.5	Easily damaged parts.....	42
11	Packing list.....	44
12	Test report.....	45
13	Certificates of compliance.....	46

1 Foreword

Dear users, thank you for purchasing this product, in order to make you have a better understanding and use this product correctly, please be sure to read this manual carefully before use. In familiar with this product knowledge, safety information and all notice items, then use the machine.

This manual designed to provide you with the permanent machine information of installation, operation, and maintenance. This manual must be handed over to the person in charge of machine tools for proper operation and maintenance. Please safekeep it well, for inspection. If need more detailed information, please contact with our service department in time (please note the model and factory machine code, , the machine nameplate and certificate of compliance both have machine model and factory machine code).

Declaration: if product has changed, without notice. After updating.

2 Summary

2.1 Vocabulary of terms

- 1) swing-type plate shears----Turret on the way to pendulum (the blade shaft put on pendulum shaft as the center for the arc trajectory reciprocating movement) and workbench do relative movement shear-deformation plate material machines.
- 2) hydraulic pendulum plate shears----Turret on the use of hydraulic-driven campaign shear-deformation plate material for tilting the cutting plate machine.
- 3) Rack----constitute the framework of ontology.
- 4) Vertical Shaft ----The rack-side.
- 5) Ram---- Reciprocating movements components for the blade installation.
- 6) blade----cutting tools that direct role in the sheet metal.
- 7) workbench---- Fixed two housings, it is component of installing sheet metal blade and bearing plate.
- 8) hydraulic hold-down feet----component that fixed plate by hydraulic drive when shearing plate
- 9) Nominal pressure---- maximum working pressure that machine allowed
- 10) cutting width---- rated width of shearing plate
- 11) cutting thickness---- rated thickness of shearing plate
- 12) bend strength of materials----it refers to the metal material to a certain extent under pull role, the maximum capacity code of material resistance destroy roll, when deformation increase utmostly suddenly: σ_b , refer to the ultimate strength when outside force is pull
- 13) Distance between columns---distance between two pillars inside
- 14) cutting edge gap---- space between upper blade and lower blade(the size of gap have a direct impact on the quality of shear effect
- 15) nitrogen return cylinder----closed-cylinder filled with compressed nitrogen inside, with a constant flexibility when compressed pistons, the machine as a gas spring, has played the role of lift on the turret.
- 16) Back gauge distance----distance from back gauge block to cutting position of the upper blade and bottom blade
- 17) the up die of upper knife----the most upper limit position in fluctuation movement of upper knife
- 18) the down die of upper knife----the most lower limit position in fluctuation movement of upper knife
- 19) Hydraulic transmission----transfer movement and power making use of hydraulic oil pressure

2.2 The Use and Characteristics of the Machine:

This machine tool is mainly used in aviation、light industry、metallurgic industry、chemical industry、architecture、automobile、power industry、electric appliance、decoration engineering and etc. Shearing thickness: 0.5~16mm(The Anti-pull strength of sheared plate subject to 450N/mm². When shearing the plate with higher strength. Please correspondingly decrease the thickness of sheared plate) Width less than or equal to: 2500mm(QC12Y-6X2500), 3200mm(QC12Y-6X3200) This plate, have a high work efficiency, reliable performance.

Characteristics:

- 1) Steel welding frame, good rigidity; Nitrogen accumulator return framework; adopt hydraulic pendulum shear framework, to make the shearing process quickly and smoothly, plates have smooth shearing surface after shearing
- 2) Adjust the gap of blade mouth promptly and conveniently, the extruded plate is applied to mechanical transmission. The position register display the amount, and it can be adjusted slightly by hand, which is convenient and reliable. The intruded plate adopt staff gauge to count and the block to oriente.

In addition, the machine is equipped with Lamplight for lineation and shearing. Shearing stroke can be adjusted, in order to improve the work efficiency. Furthermore, there is equipped with a protection defence, When lifting it up, the machine can automatically stop in order to assure safety operation.

This machine tool adopt advanced hydraulic and electrical control system, adjust and operate it promptly and conveniently.

2.3 Use environment condition

- 1) Environment temperature: $-2^{\circ}\text{C}\sim 40^{\circ}\text{C}$;
- 2) Environment humidity: $35\%\sim 95\%$; No frost
- 3) Altitude: $<1000\text{m}$;
- 4) There are no pollutants that corrode metal and damage the insulation enough, around machine tool in the air, such as dust, corrosive gases and so on;
- 5) Machine work space should have a good illuminance, illuminance lighting should conform to the standard lighting provisions of relevant workshop.

2.4 Caution

- 1) Operators must be trained professionals;
- 2) Machine should lay horizontally at the time of installation, machine distortion will affect machine performance;
- 3) In the maintenance and installation of machine tools, there need a PPE devices (gloves);
- 4) Machine is prohibited to run in cases of overloading and serious partial load, otherwise machine has the risk of damage.;
- 5) If need replace accessories, models must be consistent with the original model. If you have any question, please contact with our after service department.

2.5 Security advice

This manual will mention caution on safety matters in the relevant sections . Severity rate of security advice falls into two categories, "dangerous" and "notice".



Notice: Wrong operations may cause death or severe injury!

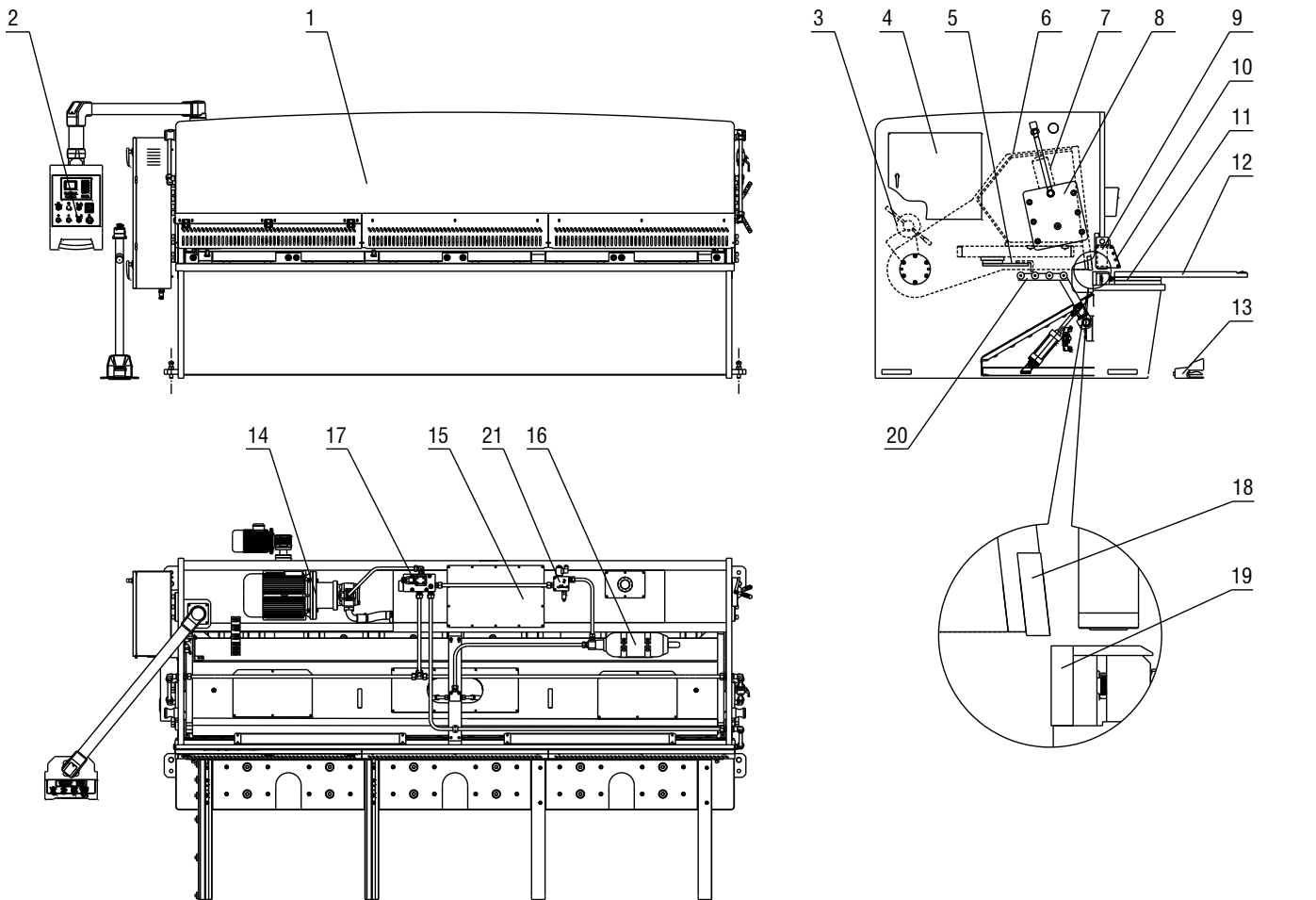


Dangerous: The wrong operation might cause moderate injury, minor injury or damaged goods!

3 Machine structure and working principle

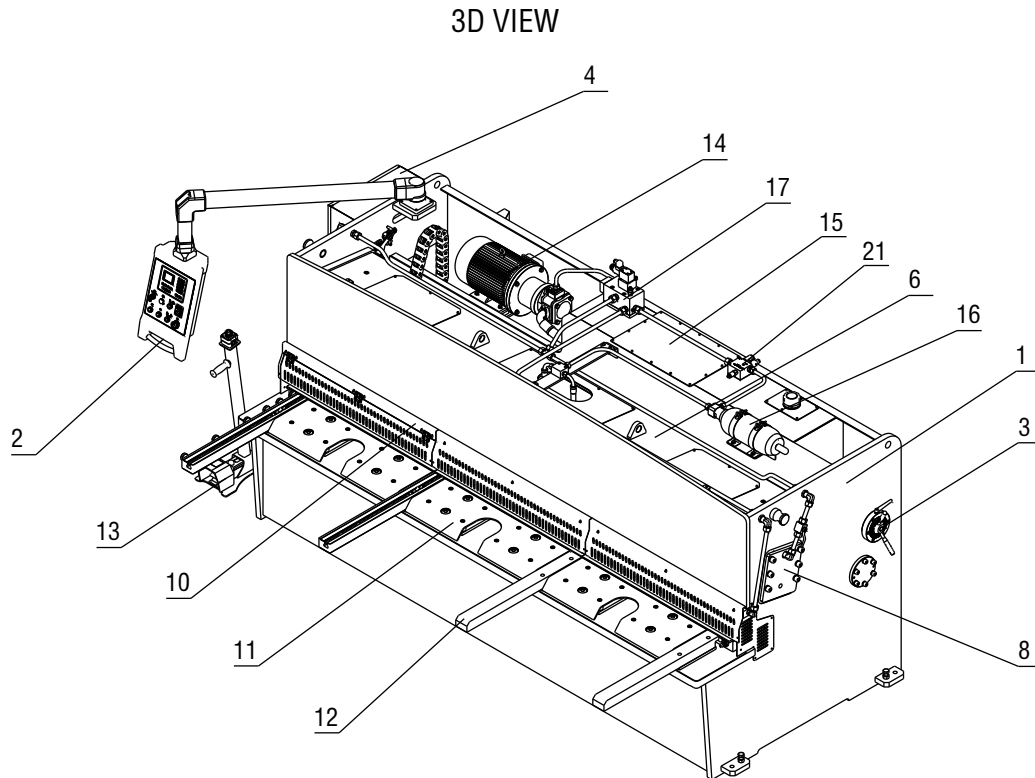
3.1 Machine structure

3.1.1 Machine shape



- | | | | |
|-------------------------|------------------------|----------------------|-------------------------------|
| 1. machine frame | 6. upper blade adapter | 11. work table | 16. accumulator |
| 2. console | 7. Return cylinder | 12. support rack | 17. integrated valve block |
| 3. blade gap adjustment | 8. oil cylinder | 13. Footswitch | 18. Upper blade |
| 4. electrical box | 9. hold down cylinder | 14. motor 、 oil pump | 19. lower blade |
| 5. back gauge | 10. guardrail rack | 15. oil tank | 20. Pneumatic sheet support |
| | | | 21. accumulator control valve |

3.1.2 Machine structure general view



- | | | | |
|-------------------------|------------------------|----------------------|-------------------------------|
| 1. machine frame | 6. upper blade adapter | 11. work table | 16. accumulator |
| 2. console | 7. Return cylinder | 12. support rack | 17. integrated valve block |
| 3. blade gap adjustment | 8. oil cylinder | 13. Footswitch | 18. Upper blade |
| 4. electrical box | 9. hold down cylinder | 14. motor 、 oil pump | 19. lower blade |
| 5. back gauge | 10. guardrail rack | 15. oil tank | 20. Pneumatic sheet support |
| | | | 21. accumulator control valve |

3.1.3 Machine structure outline

1) **framework:**

Steel welding frame structure, has good rigidity.

Two-cylinder fixed in the column, a supplementary tool is set up on the table, convenient for micro-regulation of lower blade stilt. Table also equipped with feeding roller ball, operate Lightly.

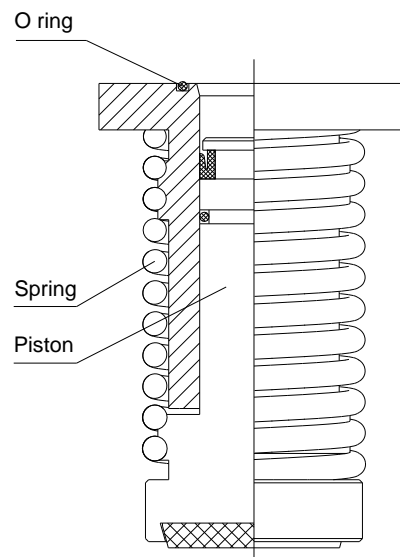
2) **Upper blade stilt:**

Steel welding frame structure, has good rigidity.

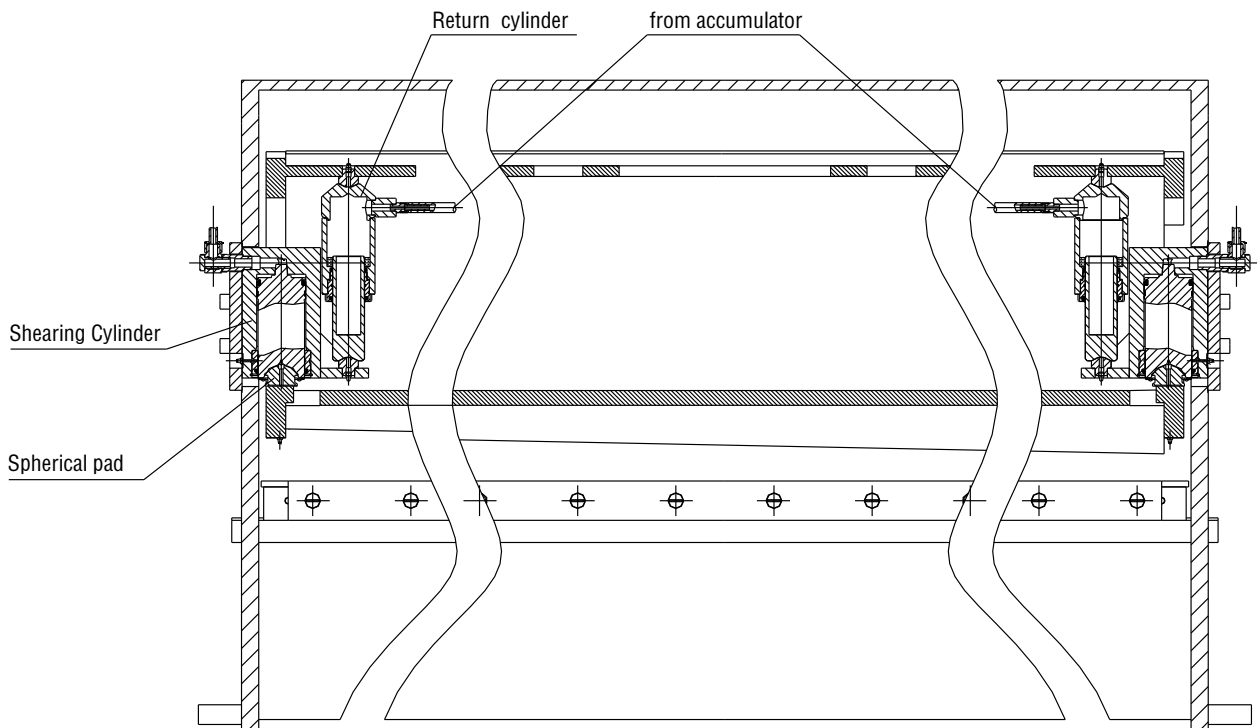
3) **Hold-down device:**

It is composed of several hold-down cylinder (picture four) that set up at frame front plate. After oil comes into hold-down cylinder, hold-down head press down after overcoming compression spring (seven) , pinched plate. Upon completion of the shearing, through the use of compressed spring rally and reset. The size of pressure plate force was increased with increasing of plate thickness.

hold down cylinder



4) Cylinder and accumulator

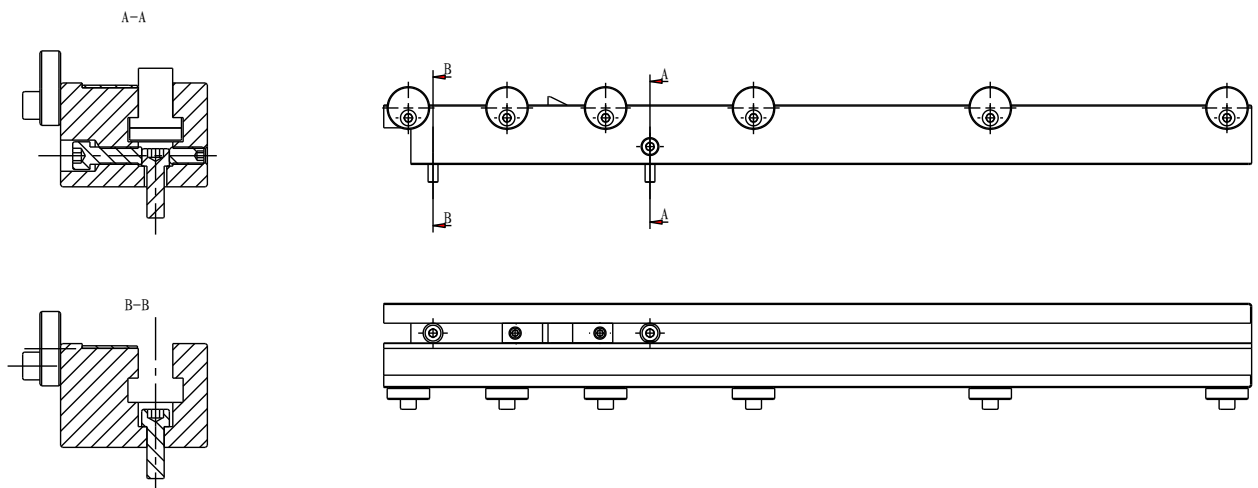


5) Front gauge and back gauge:

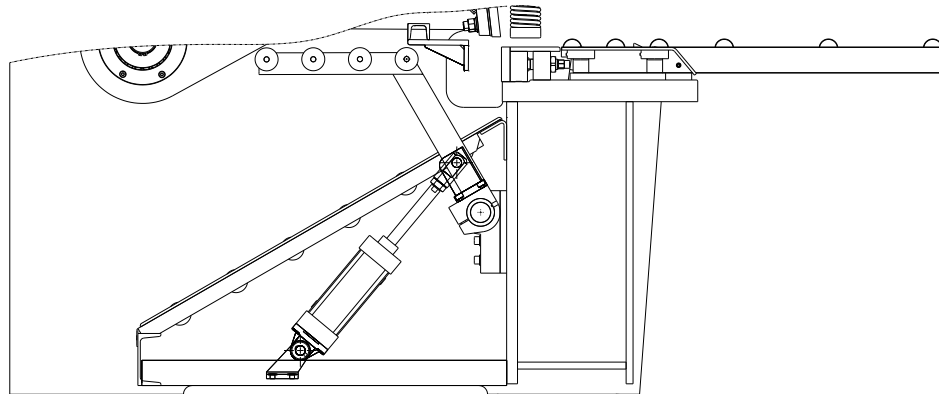
Front gauge at table, ruler display its amount, regulate activities block to reach the expected value. Shearing thin steel plate in the use of front gauge, cutting will be more convenient.

Back gauge stilt installed in the turret, with turret on the swing from top to bottom, the regulation of back gauge stilt is driven by motor, and by screw drive after deceleration of gear. In press the button, can be expected to block-forward (or backward) the regulation.

Front gauge



6) Pneumatic sheet support



3.2 Working principle introduction

The machine adopt double-cylinder hydraulic transmission, drive upper blade stilt compress nitrogen return cylinder and do downward cutting action, complete cut, then lift upper blade stilt by nitrogen return cylinder.

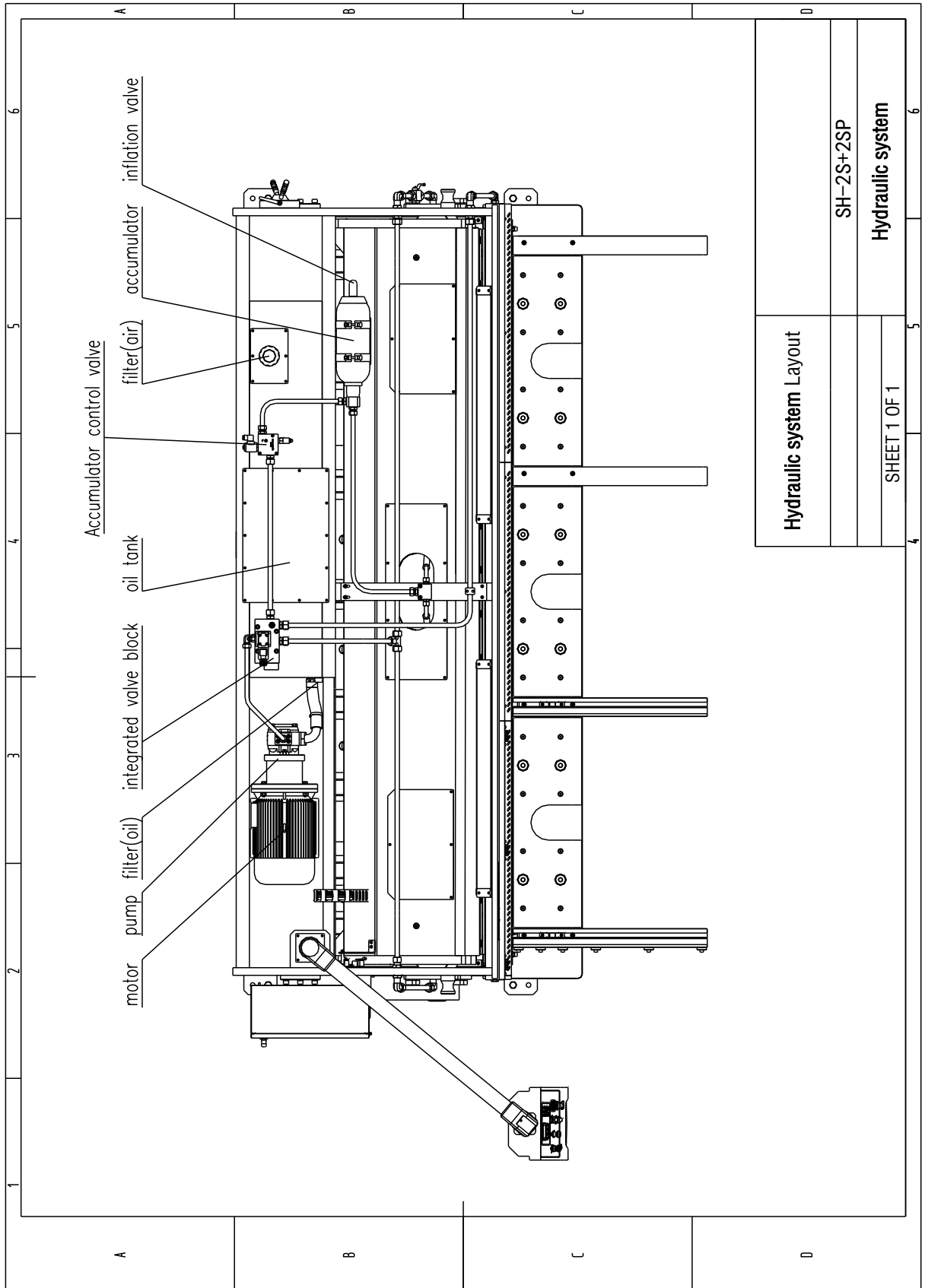
- 1) hold-down: first pedal switch give off telecommunication signal to electrical system, control action of electromagnetic relief valve , hydraulic oil pressure increased gradually under the control of hydraulic valve, first drive hold down oil cylinder pinch plate.
- 2) Shear: hydraulic oil pressure of system increase to a certain amount, two cut oil cylinder overcome compression nitrogen resistance inside nitrogen return cylinder, started descending completed shearing action. Shearing action completed.
- 3) Return: electromagnetic valve loss of power under the control of electrical system, hydraulic system began to load relief. Nitrogen return cylinder overcome gravity on the turret lifted upper blade stilt until the up dead center.

3.3 Technical parameter

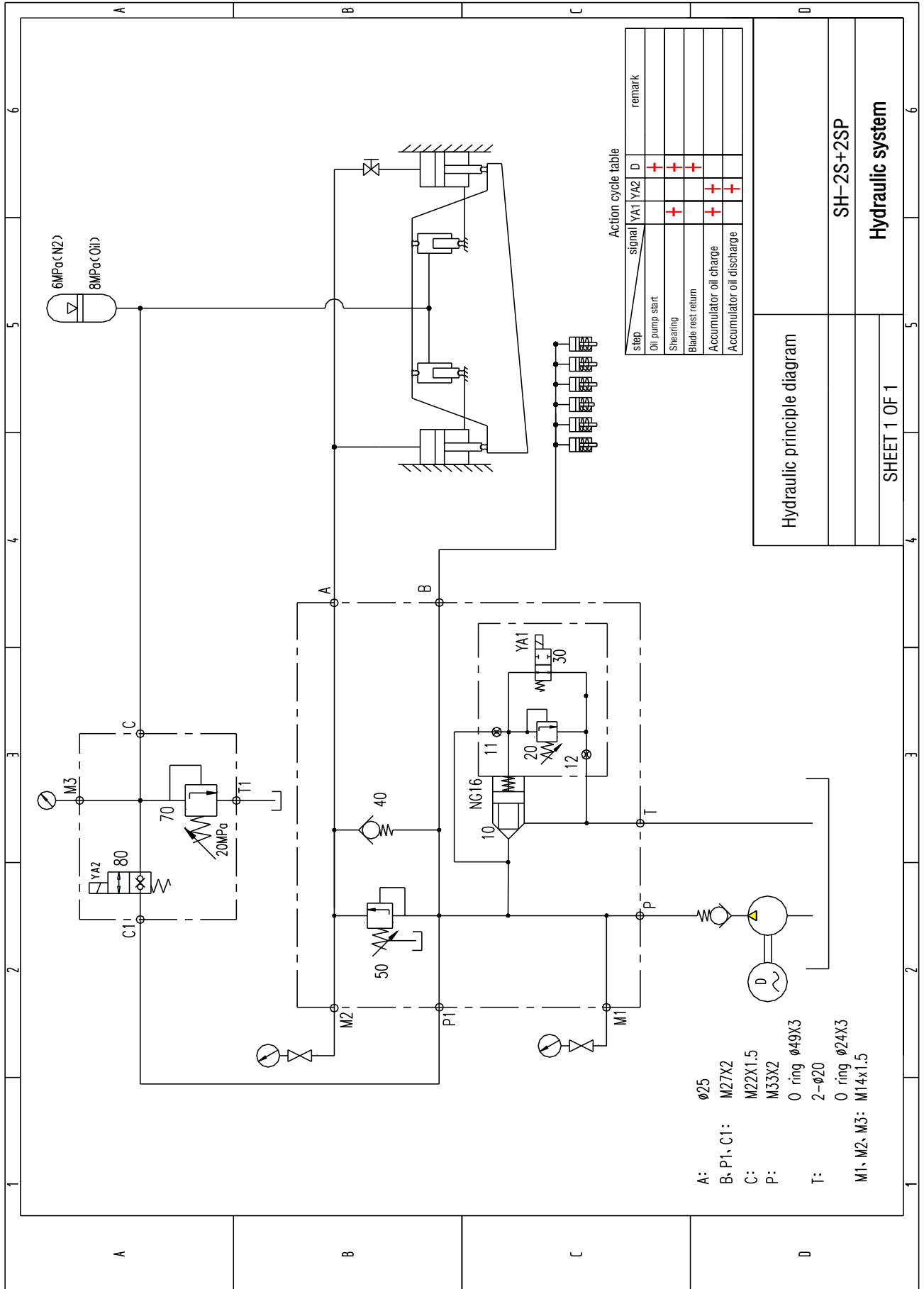
number	apellation		amount	unit	remark
1	Max thickness of plate		6	mm	
2	Max width of plate		3200	mm	
3	Anti-pull strength of sheared		450	N/mm ²	
4	Shear angle		1° 30'		
5	Throat depth		120	mm	
6	Max distance of back gauge		800	mm	
7	Stroke times		10~16	t/min	
8	Pole distance		3420	mm	
9	Razor blade length		3300	mm	
10	Height from bench to ground		800	mm	
11	Main motor	Type	Y132M-4		B35
		Power	7.5	kW	
		Rotating	1440	r/min	
12	Back gauge motor	Type	YS7124		
		Power	0.37	kW	
		Rotating	1440	r/min	
13	Axial plunger pump	Type	25		
		Discharge	25	ml/r	
		Pressure	31.5	MPa	
14	Dimension	Length	4000	mm	
		Width	1700	mm	Without backgage
		Height	1800	mm	
15	Oil box fuel injection amount		200	L	

4 Hydraulic system

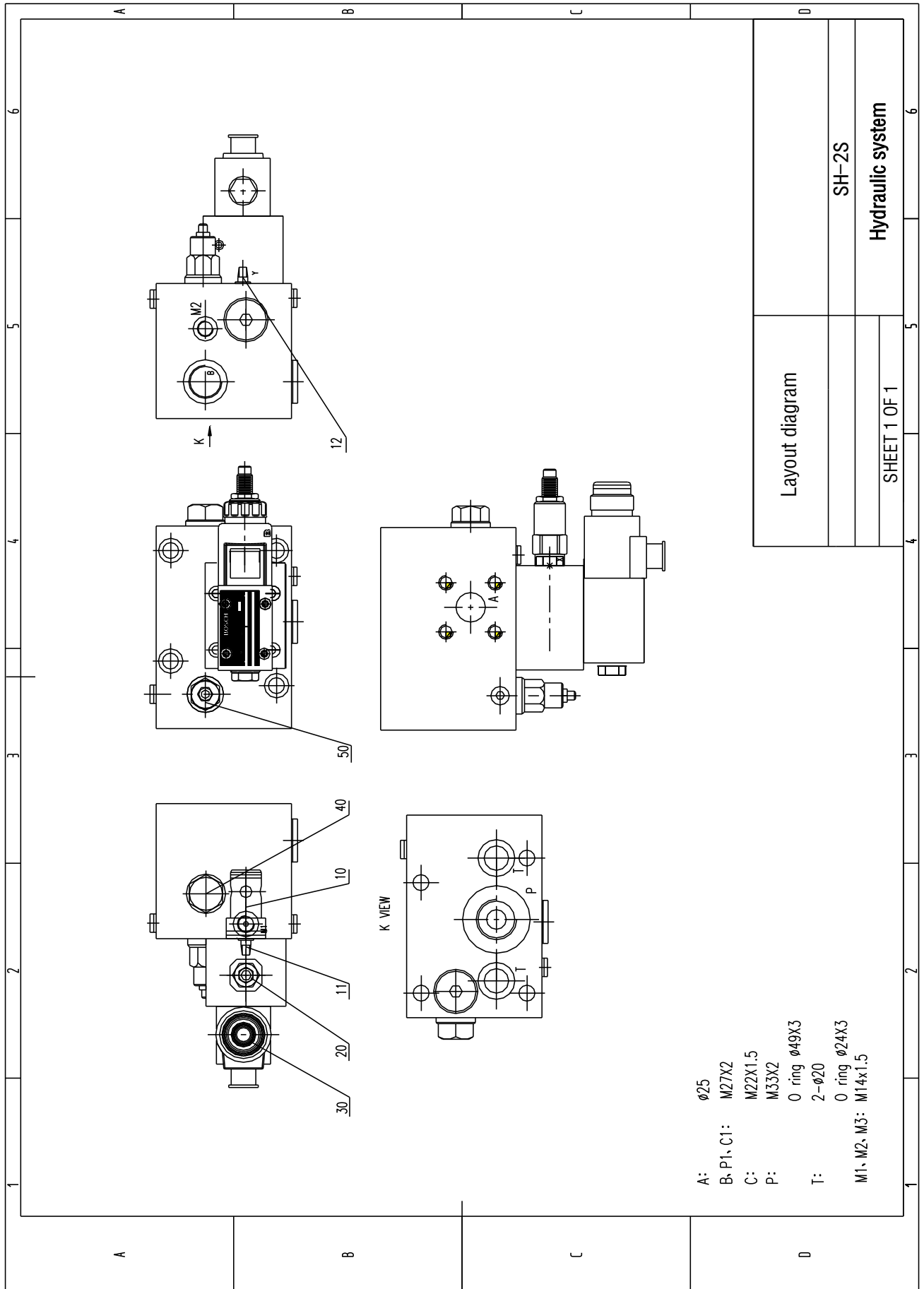
4.1 Hydraulic system layout

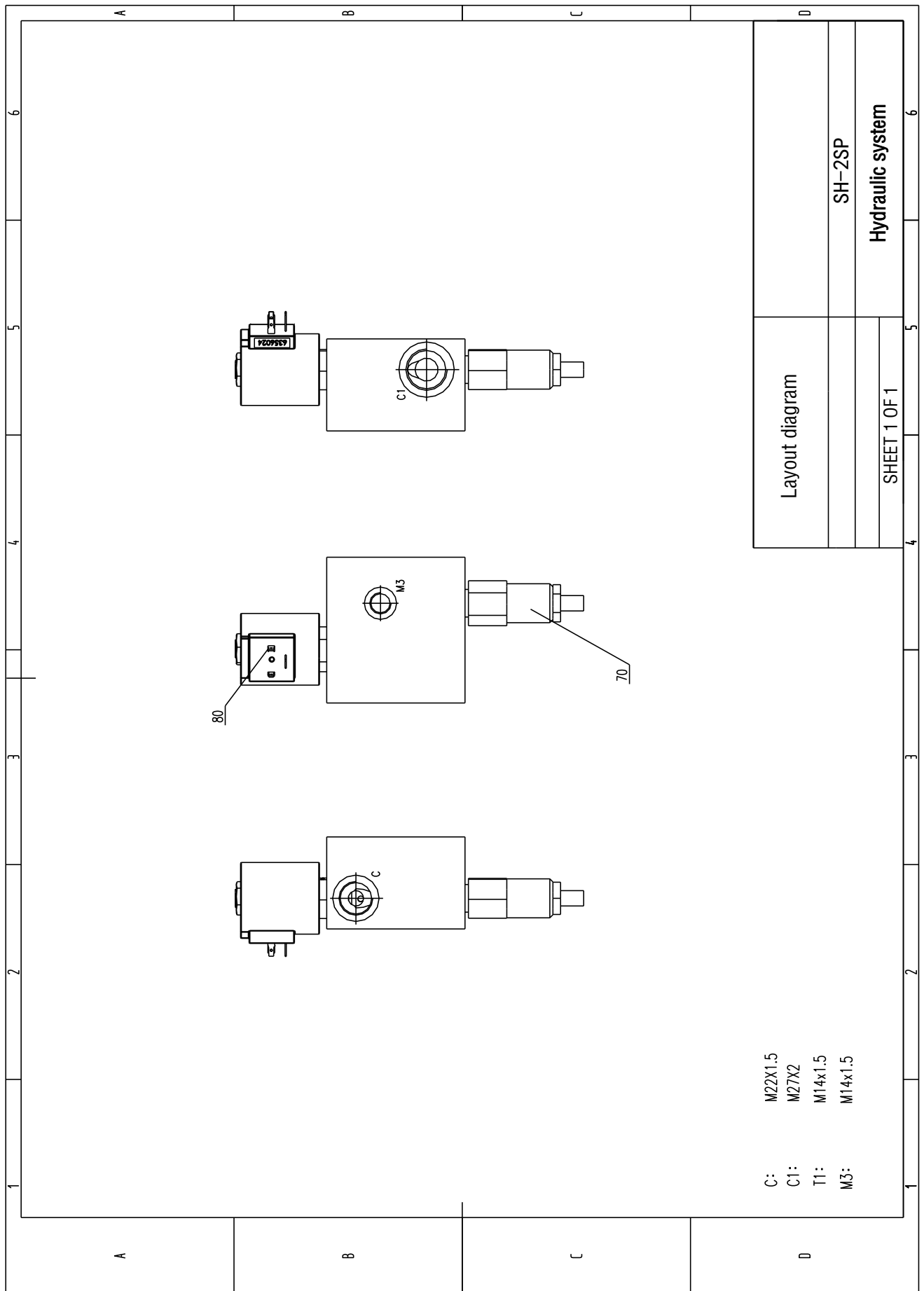


4.2 Hydraulic principle diagram



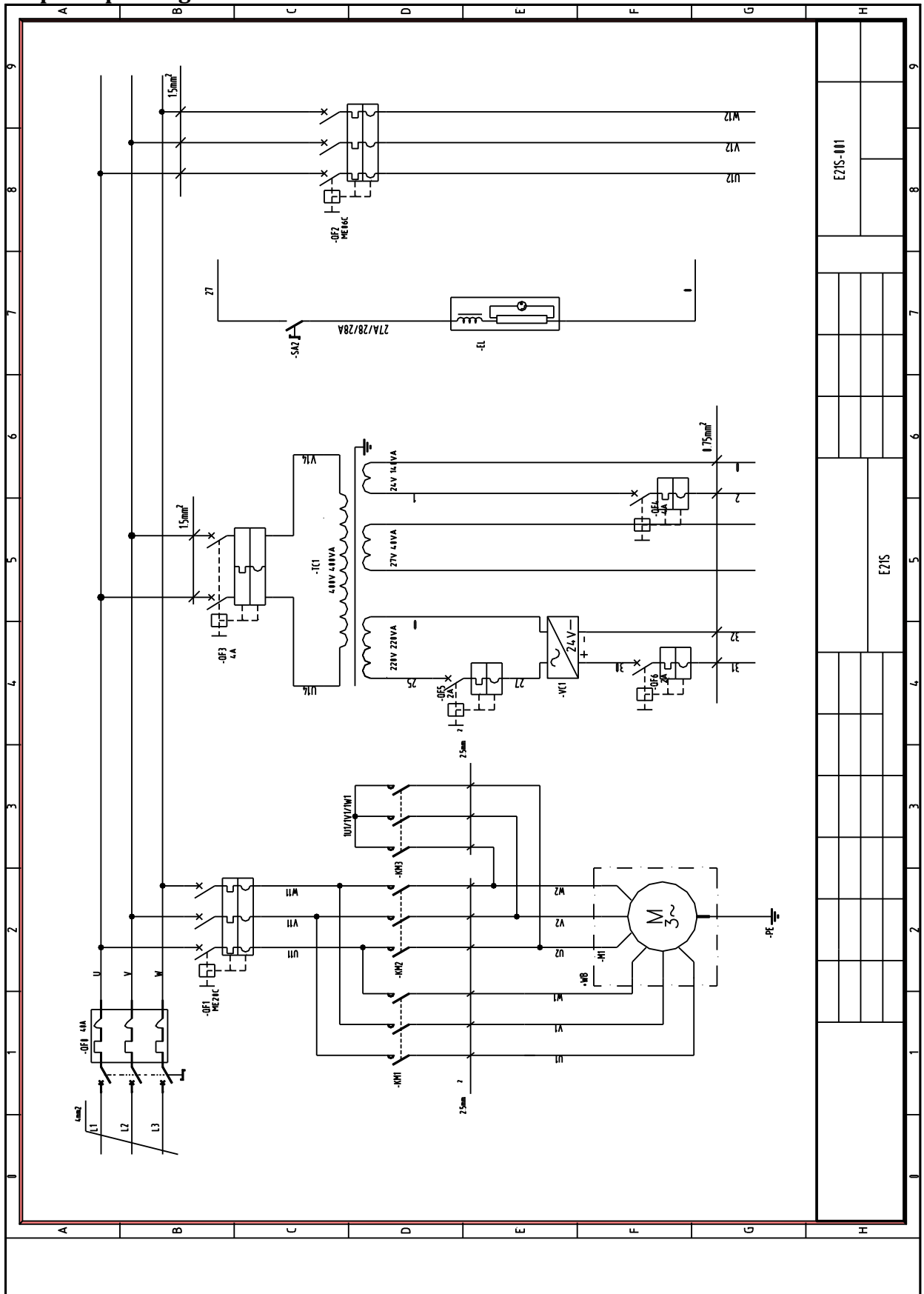
4.3 Layout diagram

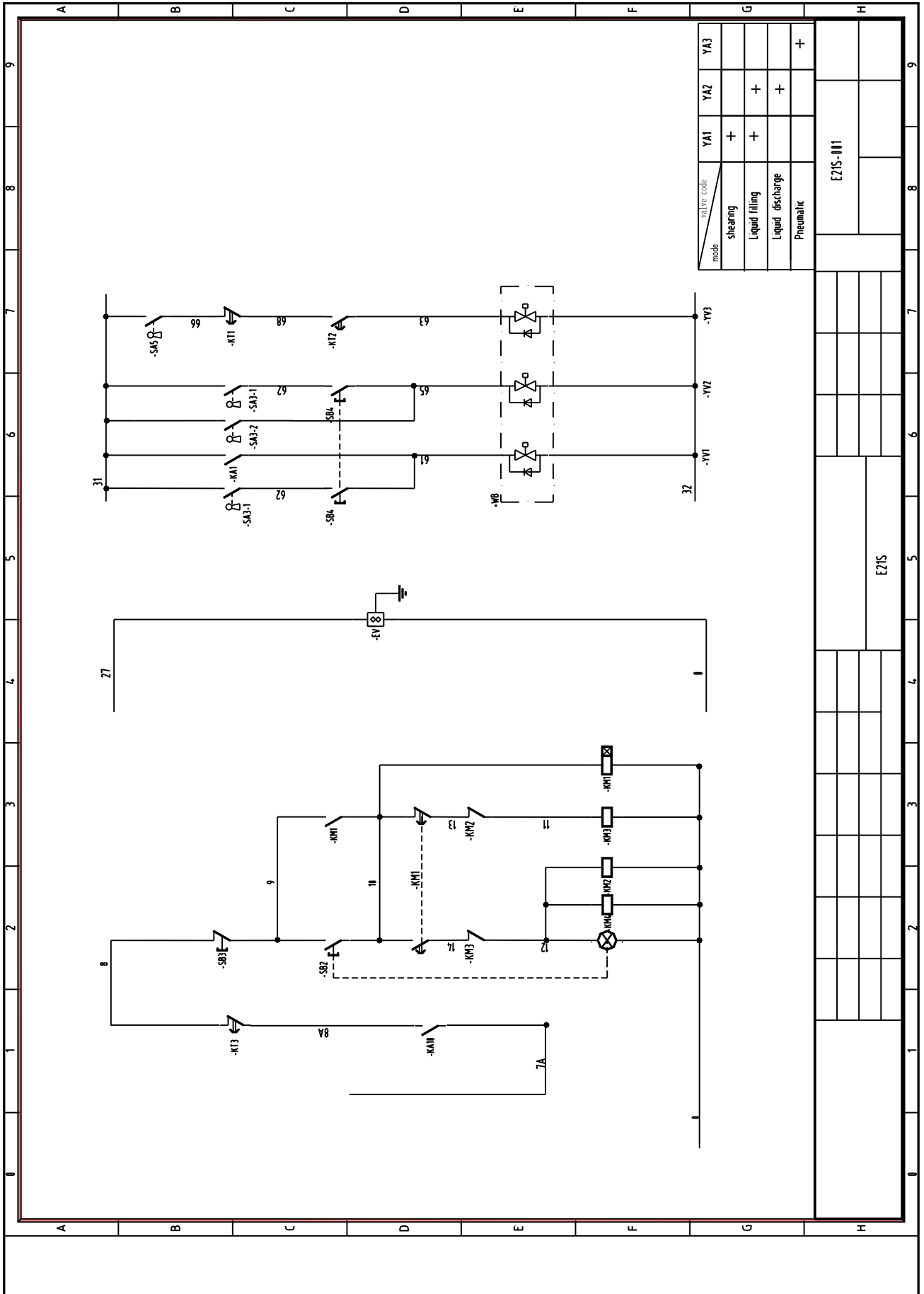


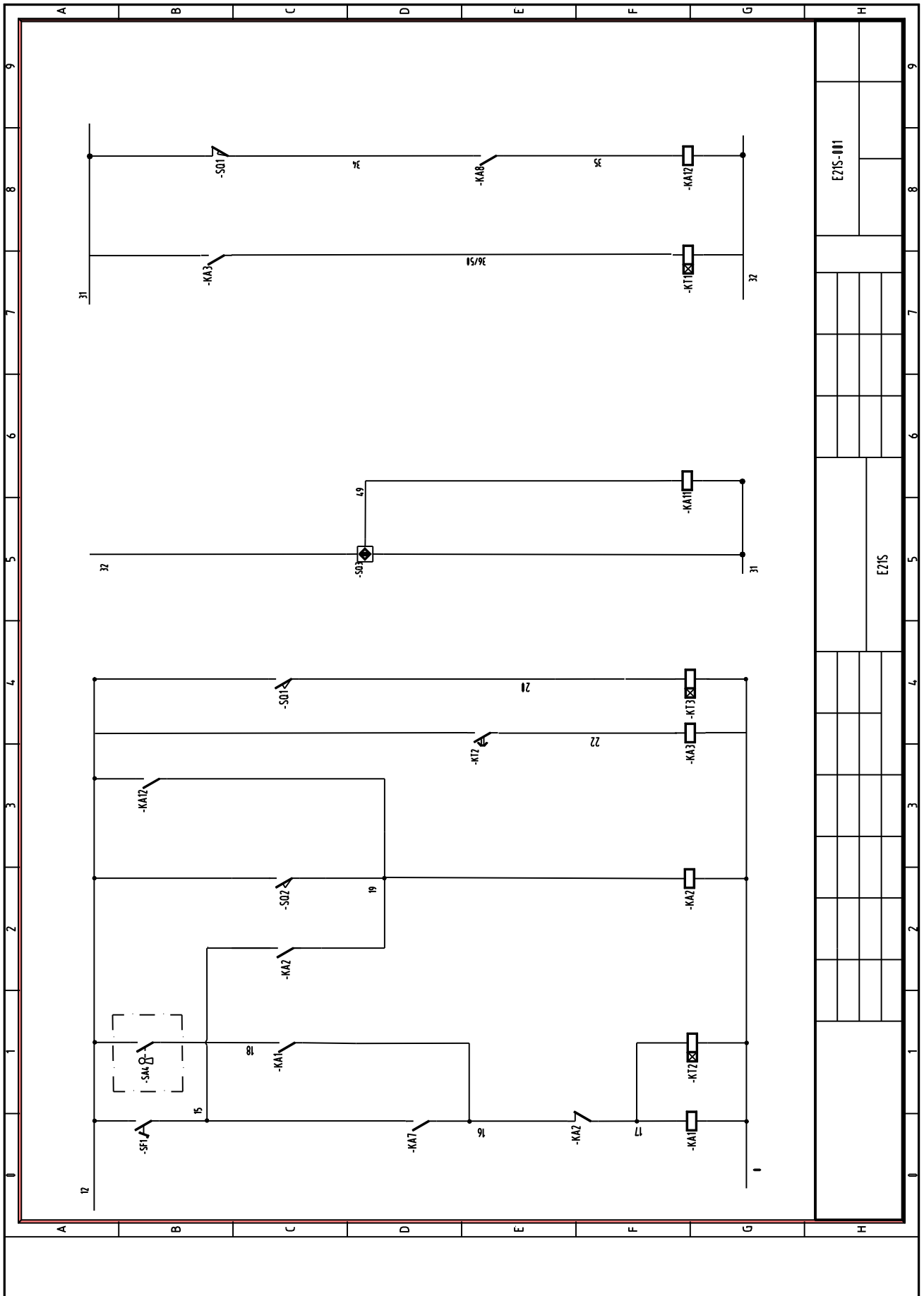


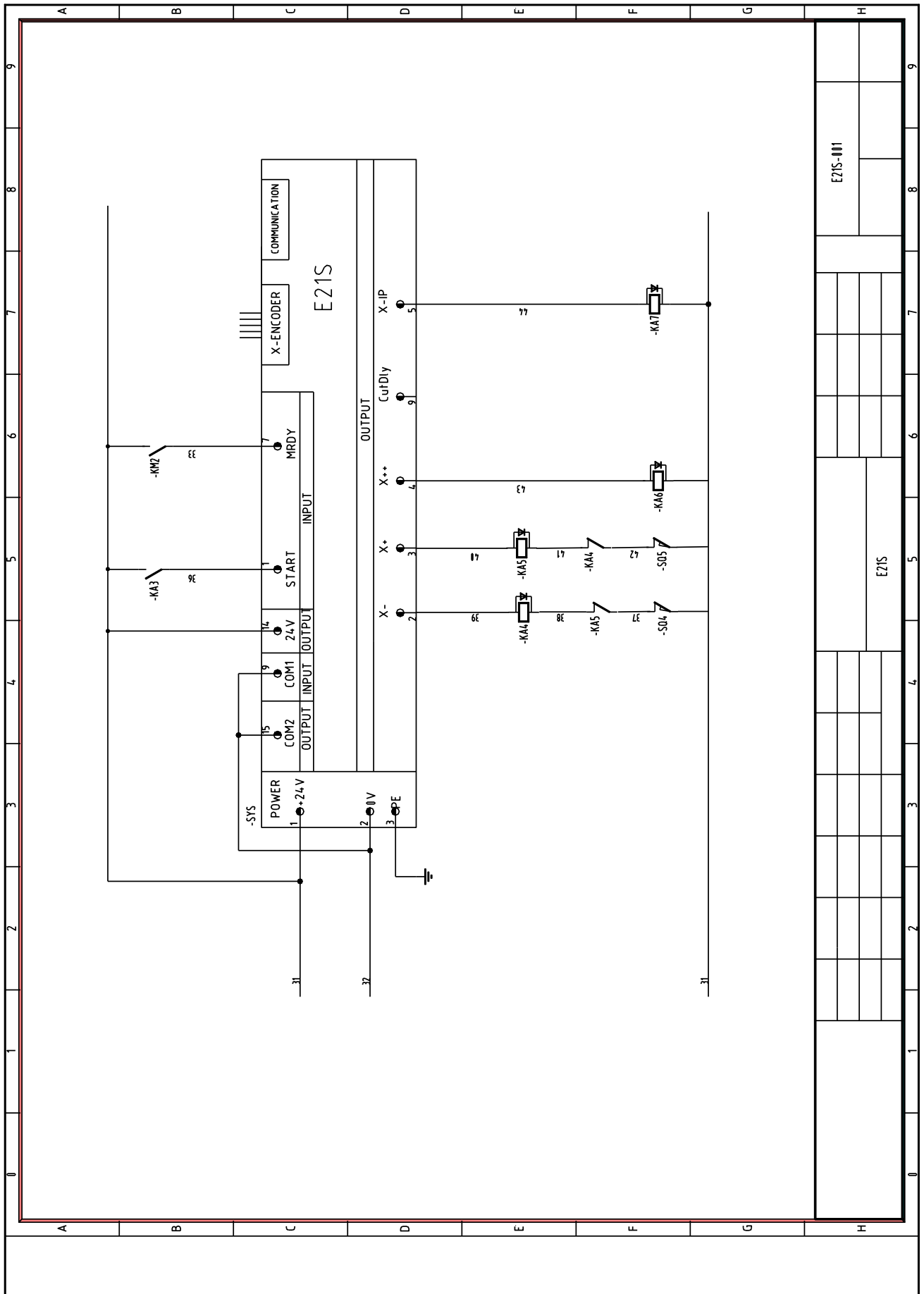
5 Electrical system

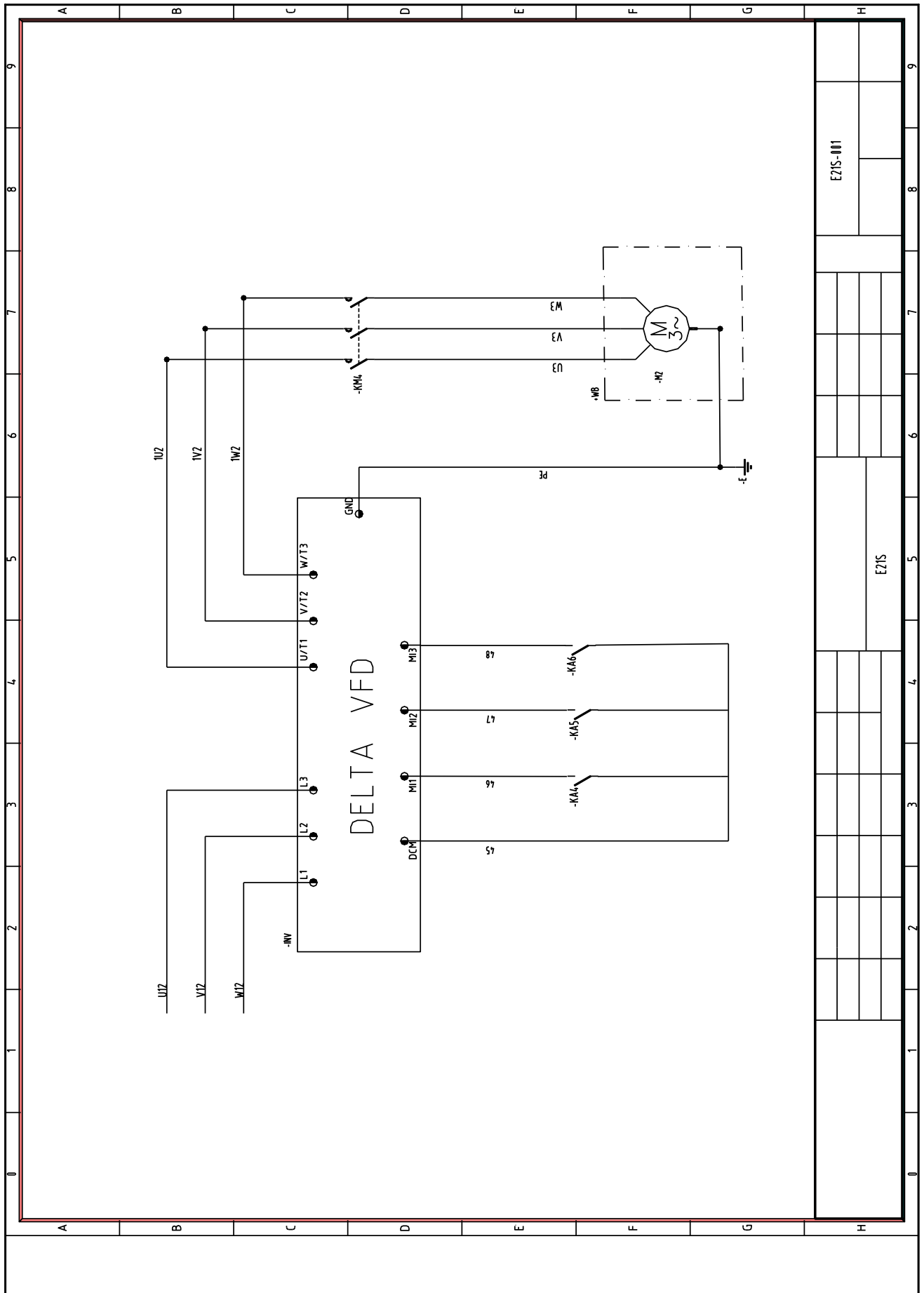
5.1 principle diagram







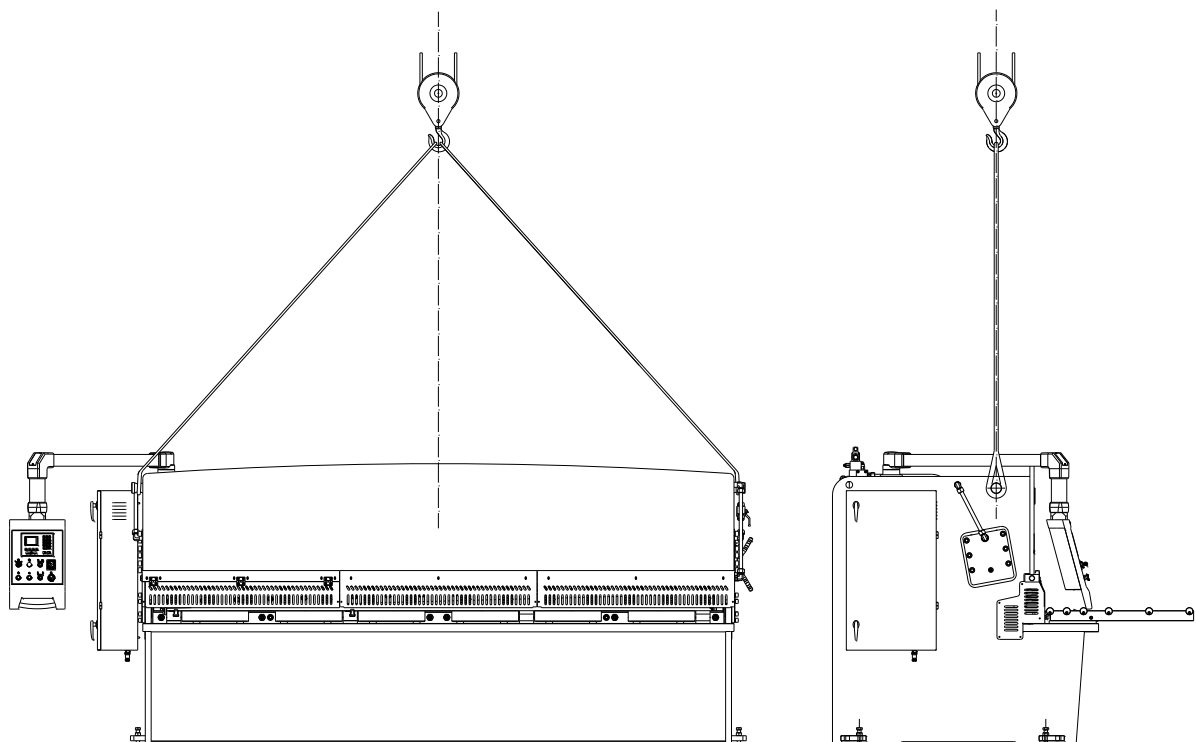




6 Transport and storage

6.1 Notice Items of Swing and Transportation

- 1) The machine has special lifting column, lifting screw, when positioning must use these facilities.
- 2) The lifting operation of machinery must operate by qualified technical staff.
- 3) The swing staff should comply with safety specification of lifting task, strictly prohibited operation against rules.
- 4) In the process of swing don't make machine suffer strenuous vibration and over obliqueness.
- 5) The barycenter of the machine is higher, even the front is heavy when the back is light. Therefore, in the process of lifting, carrying and installation, we must pay attention to barycenter location, in order to avoid causing machine collapse accidents. Lifting please according to methods as following: the contact plane of wire rope and machine surface require bedding layer, prevent the rope cut causing accidents, and damage paint.
- 6) Wire rope flare angle is strictly prohibited more than 90° .
- 7) Strictly prohibit overloading use spreader, lifting equipment.



6.2 Notice Items of storage

- 1) Machines should not be in storage in the open air for a long time, should prevent rain and snow, wind and corrosive gases invasion;
- 2) Prevent storage in high-temperature and humid environment
- 3) When don't use machine for a long time, the mould, guide rail, table, the piston head, back gauge guide rail, guide screw and other exposed processing surface of machine should make oil seal and let rust treatment.

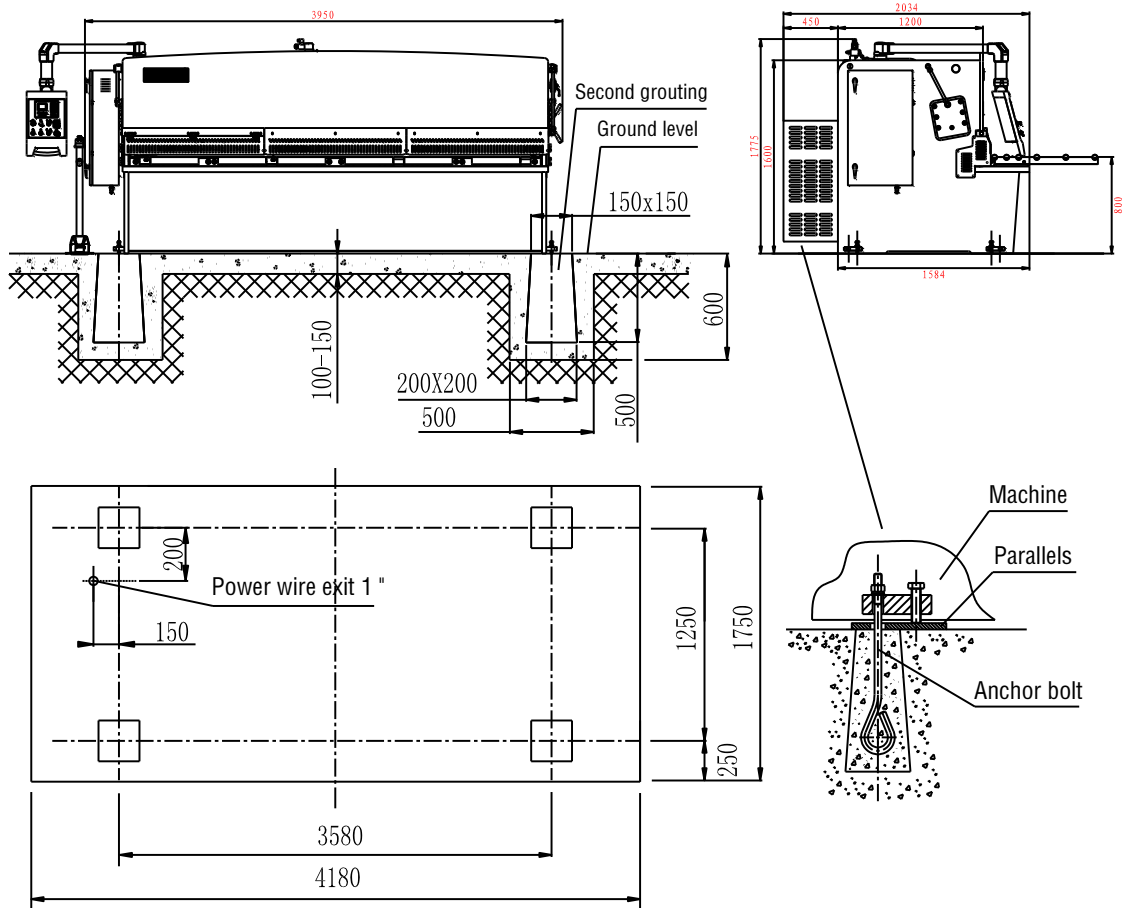
7 Preparation before Installation and use

7.1 The basis of machine (groundwork)


Before installing machine tools, the soil around groundwork must be strengthened, depth according to several soil conditions of soil, must prepare foundation before 10 days(the first irrigation). See Figure Foundation (subject to the actual size of machine tool).

After machine falling, foundation bolt re-use concrete irrigation(the second irrigation). After the solidification of concrete, make level adjusting work to the machine.

7.2 Foundation drawing



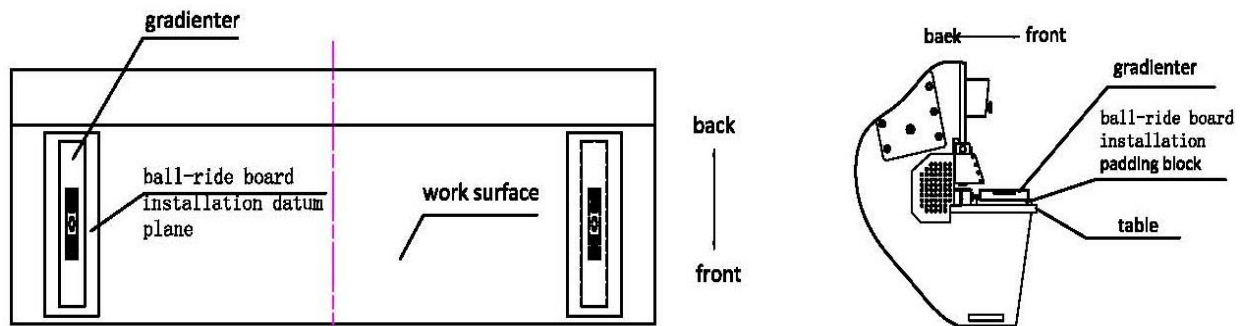
Put the table of machines as the basis of measuring level,
 Crosswise Direction all should be $\leq 1000:0.2$ mm. In advance
 do foundation according to picture, make machine install at
 the foundation, then install foundation bolt, at last irrigate.
 After full solidification of concrete, then revise level.

foundation drawing	
Hydraulic shearing machine	

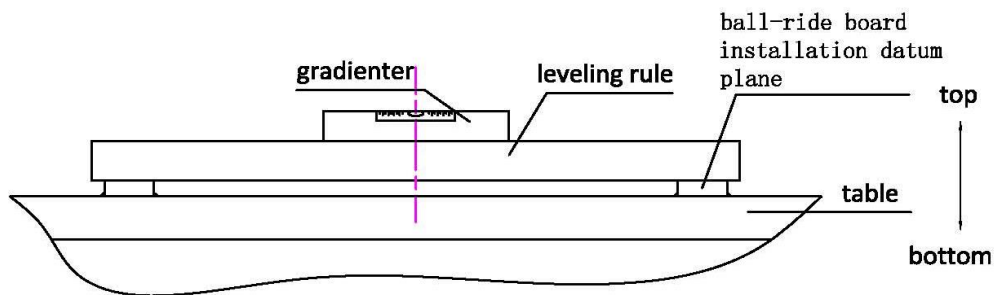
7.3 The adjustment of machine tool level

When machine installing and fixing, the bowling table Shell should be removed. with one-meter ruler placed on the two Pad, then use gradienter do Crosswise Direction correction, every 1000 mm, tolerance not more than 0.2 mm.

- 1) Horizontal level adjustment: put the gradienter at the two ends of bench ball-ride board installation datum plane separately, adjust foundation governing screw, ensure both ends cross direction (front and back direction of table) level precision is within 0.2/1000mm.



- 2) Longitude horizontal adjustment: put the gradienter at the middle of bench, adjust foundation governing screw, ensure vertical direction (length direction of table) level precision is within 0.2/1000 mm.



After tightening foundation bolt of rack bottom, check table vertical and horizontal level precision within 0.2/1000 mm.

Notice Items :

- 1) The surface of laying gradienter should have no oil soil, dust, such dunghill and so on.
- 2) If check vertical level inconveniently, we can increase the precision of horizontal level, make level error directions are consistent in its left and right side.

7.4 Hydraulic oil

In the hydraulic system, hydraulic oil is working media that pass power and movement. Reliable and effective work of hydraulic system, largely depends on the hydraulic oil that used in the system.

7.4.1 hydraulic oil selection

The brand value of hydraulic oil equal the average value of exercise viscosity when the temperature is 40 °C.

The higher the hydraulic system temperature, the higher the environment temperature, the more slow of work speed, then the higher of chosed hydraulic oil trademark(46mm²/s). If machine tool work under 5 °C for a long time, so can reduce hydraulic oil trademark that chosed(ISO VG32 #).

We advise don't use machine tool at low temperature (-5 °C). If use under-5 °C, should make machine run for some time in the no-load of circumstances, if necessary, install hydraulic oil heater on the return.

Under normal working conditions, oil temperature should not exceed 70 °C. In special circumstances, can install hydraulic oil cooler according to actual needs on the return.

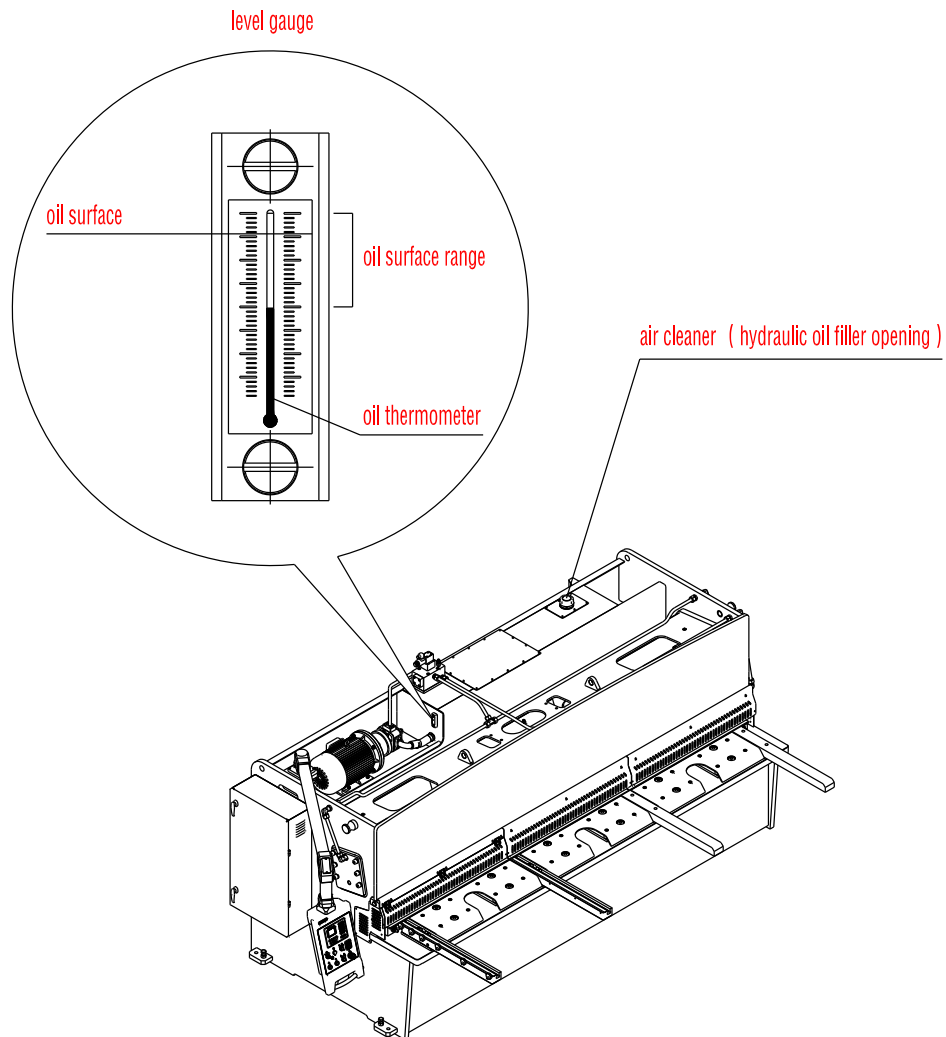
7.4.2 Tank Cleaning


The demand is higher that the machine hydraulic system to hydraulic oil, tank cleaning work is essential.


Every time replacing hydraulic oil, must upload tank cover plate, with clean and no easy losing fluff cloth clean tank bottom(not available cotton yarn), and then put in clean kerosene or petrol cleansing. As a certain limit of reservoir port size, the arm can not reach some corners of the tank, at this time can use clean wooden or bamboo pole wrapping over towels cleaning every corner, twist oil drain plug screw of tank bottom or gate valve exhausting dirty oil, then wiped away the tank walls and bottom, until cleaning. Dough texture can be used in welding line and difficult cleaning place rolling adhesion dust particles from the debris, when necessary. After cleaning install tank cover plate.

7.4.3 The addition of hydraulic oil

The hydraulic oil of use must be clean. Twist air-vent filter screw cap of tank cover plate, pour oil in tank by air-vent filter. If use refueling device with filter, can uncover tank cover plate and pour oil directly. Observe oil pointer, hydraulic oil should occupy about 80% to 90% of content gauge oil pointer space.



 **Notice:** If you are using dirty hydraulic oil, it will affect the performance and service life of hydraulic components.

 **Danger:** After machine working long time, don't touch the tank, oil pumps, motors and so on. There are the risk of being burned.

7.5 Electric wiring

- 1) The machine adopt three-phase power supply;
- 2) Electrical wiring should comply with safety rules;
- 3) Should check whether the voltage is normal often;
- 4) Cross-section size of the main power cables must choose appropriately , so that the voltage drop does not exceed the limits;
- 5) Users need make machine earth wire connect with plane ground screen, ensure personals equipment safety;
- 6) button and indicator light function, operation methods, see "electrical parts";
- 7) After connecting power, turn on the machine, observe rotation direction of oil pump motor. If the rotation direction and pump shown instruction direction are opposite, so need exchange the arbitrary two-phase line of three-phase power.

8 Use, adjustment

8.1 The adjustment of back gauge location

Users can adjust back gauge location in order to control shear size of plates, according to need. It is through synchronous connecting rod (chain) transmission, drive two guide screw synchronous operation to change gauge distance, the distance value displayed by gauge location display device. (see "machine structure," the "back gauge" section picture)

a) Back gauge plate location coarse adjustment: press console block material "+", "-" button to control back gauge plate fast before and after moving. Display device real-time display back gauge distance.

b) Back gauge location fine tuning: twiddle fine tuning wheel of console, can locate back gauge distance more precisely.

8.2 The adjustment of bracket tray ahead

Bracket tray ahead is used for lefting up sheared plates, for convenient cutting component. Above it has a rule for control plates cutting size. Also can be used for pre-positioning (optional items).

For pre-positioning of the block is fixed at bracket tray ahead by screw, loosen screw and adjust block to a suitable location, press out bolt that is ok.

8.3 The adjustment of blade clearance

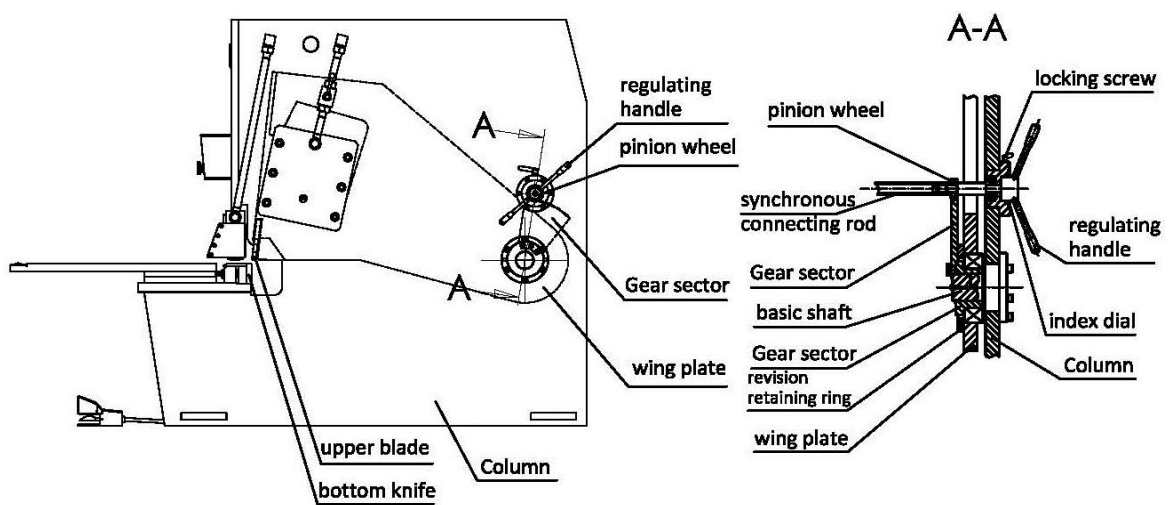
The machine blade clearance adjustment is completed by rotation offset on the upper turret cycloid fulcrum (pendulum axis) eccentricity ring. First adjust blade clearance according to sheet metal thickness, material characteristics before shearing work. Whether blade clearance adjustment is appropriate, this is important factors of influence shear quality and extending blade life, the proposed press table optional gap value adjustment. (Example: sheet metal thickness of 3 mm, material yield strength for 550 N/mm², look-up table space available edge value of about 0.20 mm).

8.3.1 Adjusting ways of blade clearance

1. Adjusting steps:

- 1) Confirm blade clearance amount
- 2) Loosen locking screw
- 3) hold regulating handle and turn handle wheel by hands, make its round sign is corresponding with the corresponding numerical value on the dial.
- 4) Lock screw, complete adjustment.

2. blade clearance adjustment picture



The blades of this model are multi-blade edge cutting tool: there are two acute angles on the upper blade available; the four acute angles of lower blade are all useful.

A. Turn off machine power

teardown of the upper blade:

(1) remove the bolts of upper blade one by one, take down blade. (note preventing blade a sudden fall in order to avoid personal safety accident!);

(2) Remove " knife pad" one by one and note rank sequence, check number one by one must not be wrong, no nick.

B. teardown of the lower blade:

(1) Remove the cover plate of the "knife holder";

(2) remove the bolts of lower blade one by one, take down blade. (note preventing blade a sudden fall in order to avoid personal safety accident!);

C. Blade installation :

having upsiding down edges, sharpening or new blade (new knife need test cutter geometry size and accuracy), re-install according to the original method of teardown. (Note: "knife pad" check number one by one, can not be wrong, no nick, distortion or stacking).

9 Precision adjustment



Notice: Normal use, the accuracy of the following without adjustment. Machine overhaul, you can adjust as per the following methods. As the process of adjustment, must possess the necessary technology and experience of the relevant personnel to operate, so does not recommend self-adjustment, you can contact the company after-sales service.

9.1 blade parts clearance adjustment (blade clearance evenness)

Good blade clearance evenness can protect cutting quality and reduce cutting-tool wear better.

warning! The machine edge of uniformity in the factory have been adjusted well, under normal circumstances users don't need adjustment. If needed adjustment operation, the operator must have a certain expertise.



Notice: If blade clearance uniformity adjustment is improper, there will be the risk of damaging tool and machine tool!



Danger: before complete adjustment, don't start machine tool. Any time don't put hands or other body parts in the space between the upper

blade and the lower blade, otherwise there will be personal accident.

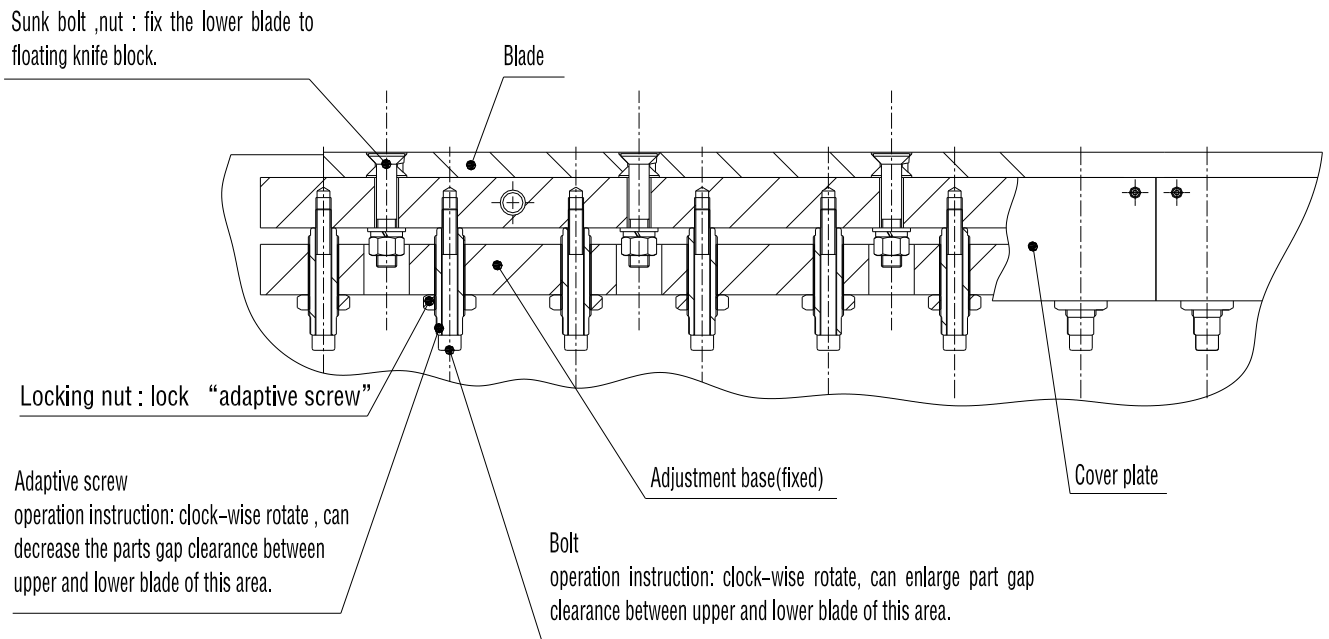
9.1.1 blade parts clearance adjustment principles:

This model blade clearance uniform adjustment is by adjusting holder that fixed in table, using several "Bolts" and "tight set screw" to the lower blade (floating mutual resistance to complete (small machine set screw and bolt is coaxial way, the same principle, the following "a widening of a" form of a detailed example).

9.1.2 Adjusting ways:

- 1) before adjustment prepare corresponding wrenches, deep hole wrenches, clearance gauge (gap-gauge).
- 2) adjust blade clearance to scale value "0" (note the knife-edge gap observation and testing , ensure the upper blade don't roll lower blade);
- 3) remove the "cover plate" of knife holder and start machine;
- 4) "single cut" method make the turret cut downwards. When the line to the down die, close "ball valve" immediately, make the Turret stop at the down die, once closed "ball valve", immediately work loose and trample footswitch, and slightly open the "ball valve", make the Turret rose a little then close, at this time can measure the edge clearance paragraph by paragraph (using "clearance gauge" measure its clearance at the included angle point between the upper blade and lower blade) and adjustment, after every measuring a period of adjustment, then slightly open the "ball valve". Let the turret rise up a little then close.
- 5) After the adjustment, check up paragraph by paragraph according to the method of (2), the demand is higher that shear sheet to blade clearance evenness, about $0.02 \text{ mm} \sim 0.05\text{mm}$.
- 6) Complete the adjustment and try to shear plate (trial plates can't achieve 50 per cent of machine capacity.)

9.1.3 blade part clearance adjusting figure

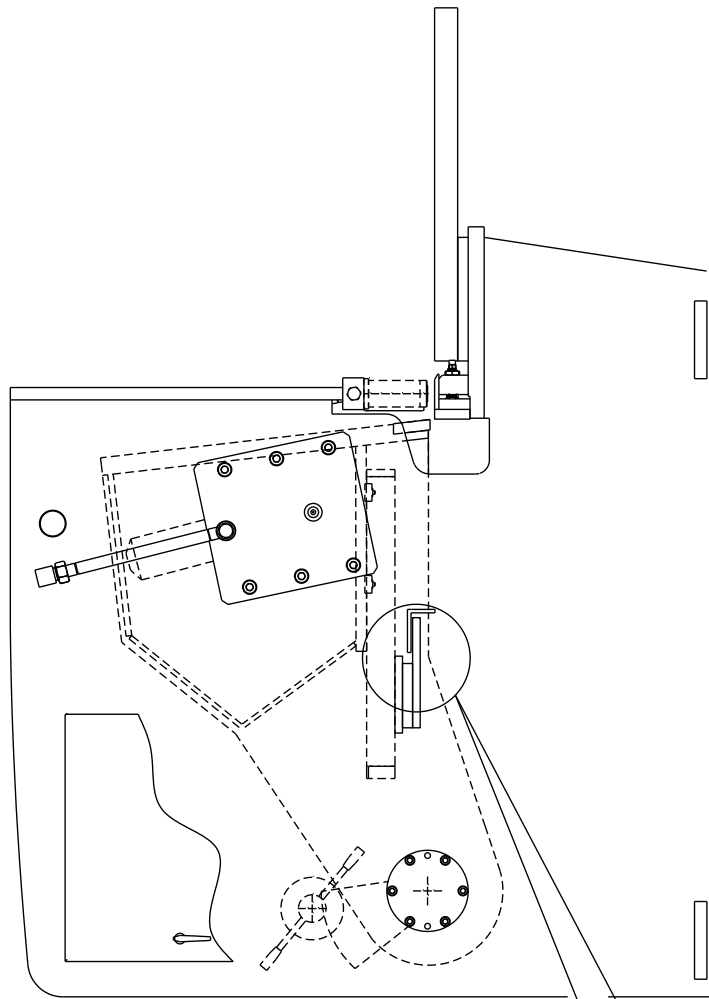


Caution: " bolt" and "adaptive screw" use in match , fasten lock mutually after adjustment.

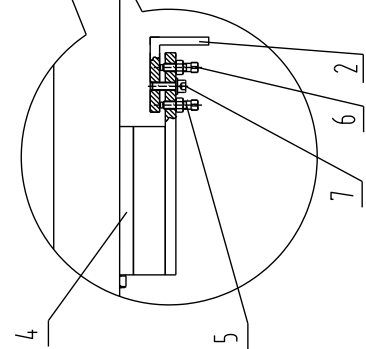
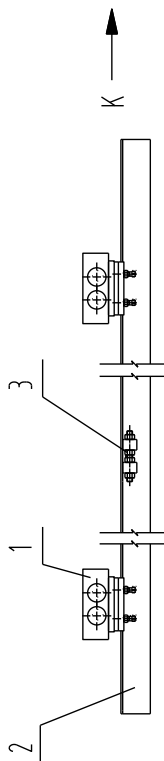
9.2 Precision adjustment of back gauge

- ◆ If discover the distance from two ends of back gauge baffle plate to lower blade is not the same when use, have affected plate shearing size precision, can be adjusted by the following methods:
 - 1) first let striker plate move to a location with the direction of reducing the size of the block(forward) (one-way location to eliminate gaps), then measure block material value of both ends of the striker plate separately, calculated the parallel block material error value at both ends.
 - 2) disconnect contact of block material synchronous transmission mechanism (disconnect the chain or synchronous axis connecting flange);
 - 3) turn "back gauge fine-tuning hand wheel ", until the gauge size of both ends is consistent.
 - 4) revert the link of block material synchronous transmission mechanism
 - 5) complete adjustment
- ◆ If discover the value that back gauge location display device displayed is not consistent with current gauge value, when use. It can be adjusted by the following methods.
 - 1) first let striker plate move to a location with the direction of reducing the size of the block(forward) (one-way location to eliminate gaps), then measure the current value of striker plate.
 - 2) disconnect contact of fine-tuning linkage (six heads pipe) and back gauge.
 - 3) According to the previous measurement of block material values, spin "back gauge fine-tuning hand wheel ", make the value that on gauge location display device is consistent with their values.
 - 4) connect contact of fine-tuning linkage (six heads pipe) and back gauge. Complete adjustment.

- 1. back gauge rack
- 2. back gauge plate
- 3. Straightness adjustment
- 4. slide seat
- 5. adjusting screw
- 6. adjusting screw
- 7. bolt



VIEW K



10 Care and maintenance

10.1 Machine lubrication

Machine lubrication quality is an important means of guarantee normal use, machine operators must be familiar with every part that need lubrication, and lubricate on regular.

Every main lubrication point of the machine adopt oil gun injection sub- plug lubrication, lubrication points are as follows:

Serial number	Appellation	Lubrication methods	Lubrication period (hour)	The type and trademark of lubricant
1	left and right return cylinder each has a point in the up and down ends	Centralized Lubrication (Manual greaser)	8	Calcium-based grease -1GN491-1987 L-AN Total loss systems in oil -N32GB443-1989
2	left and right cylinder padding block each has a point		8	
3	back gauge sliding nut left and right each has a point	Oil gun injection	16	
4	Turret swing supporting point left and right each has a point	Oil gun injection	24	
5	gap adjusting shaft sleeve left and right each has a point	Oil gun injection	48	
6	left and right cylinder piston rod each has a point	Oil gun injection	8	

Note: 50% of calcium-based grease and 50 percent of L-AN Total loss systems in oil N32 mixed before use. Details see machine lubrication label plate.

Concentrate manual lubrication pump

Manual lubrication pump for easy centralization manual lubrication system, operation simply and conveniently

Use methods: For lubrication operation, pull out the corresponding parts of the lubricating oil plug, turn pump oil handle then can make lubrication medium reach the corresponding parts and lubricate.

10.2 Hydraulic system maintenance

10.2.1 Hydraulic oil

- 1) check up oil box oil level on regular
- 2) first oil change after 500 work hours, hereafter every 2000 work time change oil one time.

10.2.2 Oil filter (Hydraulic oil filter)

filter element of oil filter need periodic cleaning, if damage that need replace, so as not to affect the cleanliness of hydraulic system and causing oil pump poor oil-absorbing, blockage, damage hydraulic components.

10.2.3 Air Filter (air filter cleaner)

Air Filters installed in the cover of fuel tank

The first cleaning after machine testing, wash-down in flux. Every four month clean one time hereafter.

10.2.4 Connection of hydraulic components

If there be oil spill that can take the following measures:

Tighten pipe fittings (If hydraulic valve that tighten bolt);

Replace seals, and sometimes require the replacement of the corresponding joint;

10.2.5 Hydraulic components

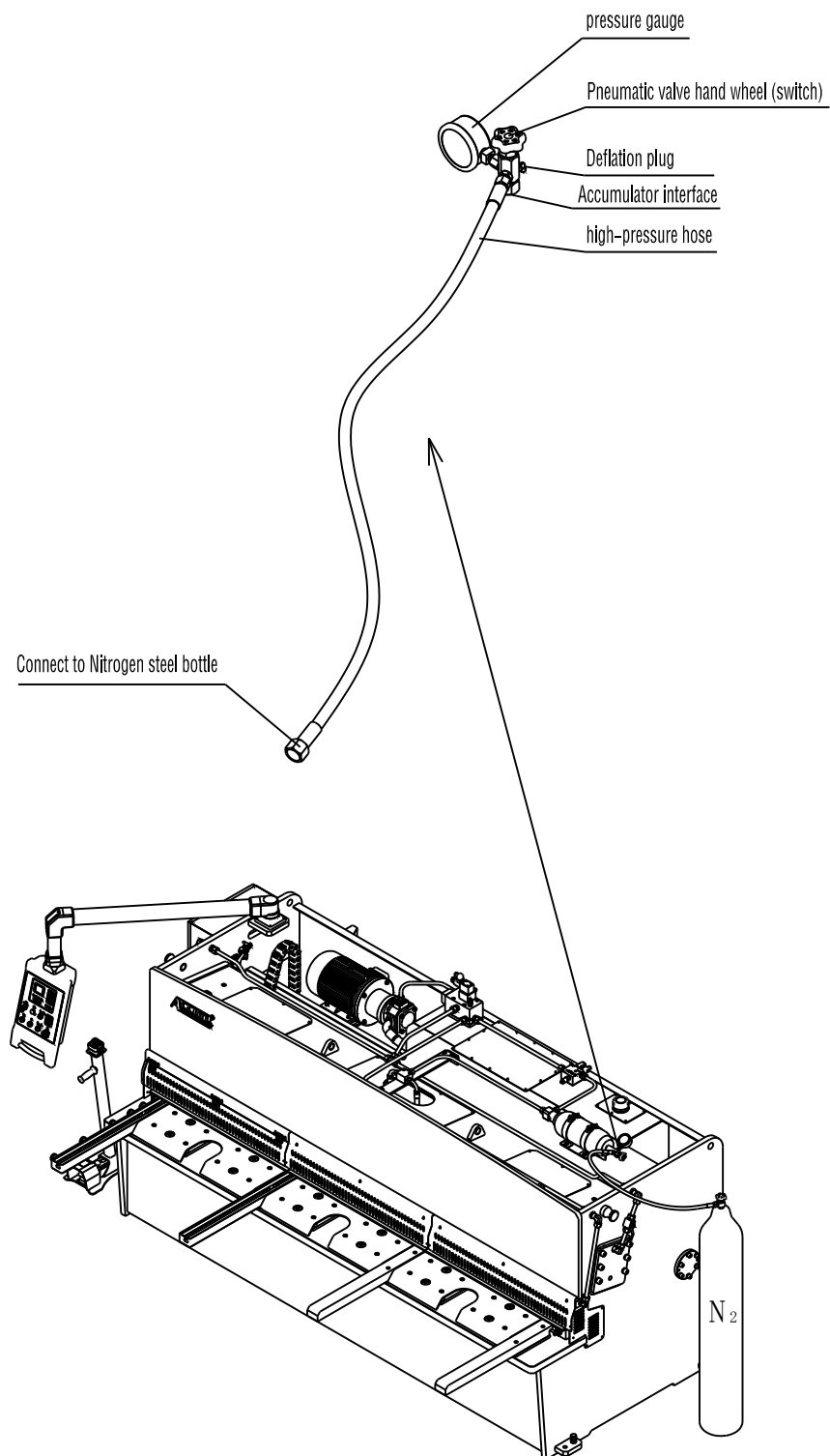
Relief valve: the normal regulated value is equal to the maximum pressure allowed, have adjusted well before leave the factory, and under normal circumstances users don't need adjustment.


10.3 Nitrogen return cylinder system maintenance(Check pressure, release nitrogen, crush in nitrogen)

On the machine nitrogen is waste, every two months should check nitrogen pressure one time, if found Turret return speed become slow in process of machine use, fuel tanks can't hold down plate, please check nitrogen Pressure. If the pressure value is lower than its normal value (5 ~ 7 MPa), should look up the reason for leakage in time, check nitrogen return stroke system leakage location, when check can use episstatic liquid flow paint in pipe fittings, air valve connecting , the location of a bubble for the leakage points. Then accordingly deal with: replace seals, if necessary, that need replace the related components). And then charge into the purity of 98 percent pure nitrogen until pressure reach 6 MPa.

10.3.1 Charge(supply) gas

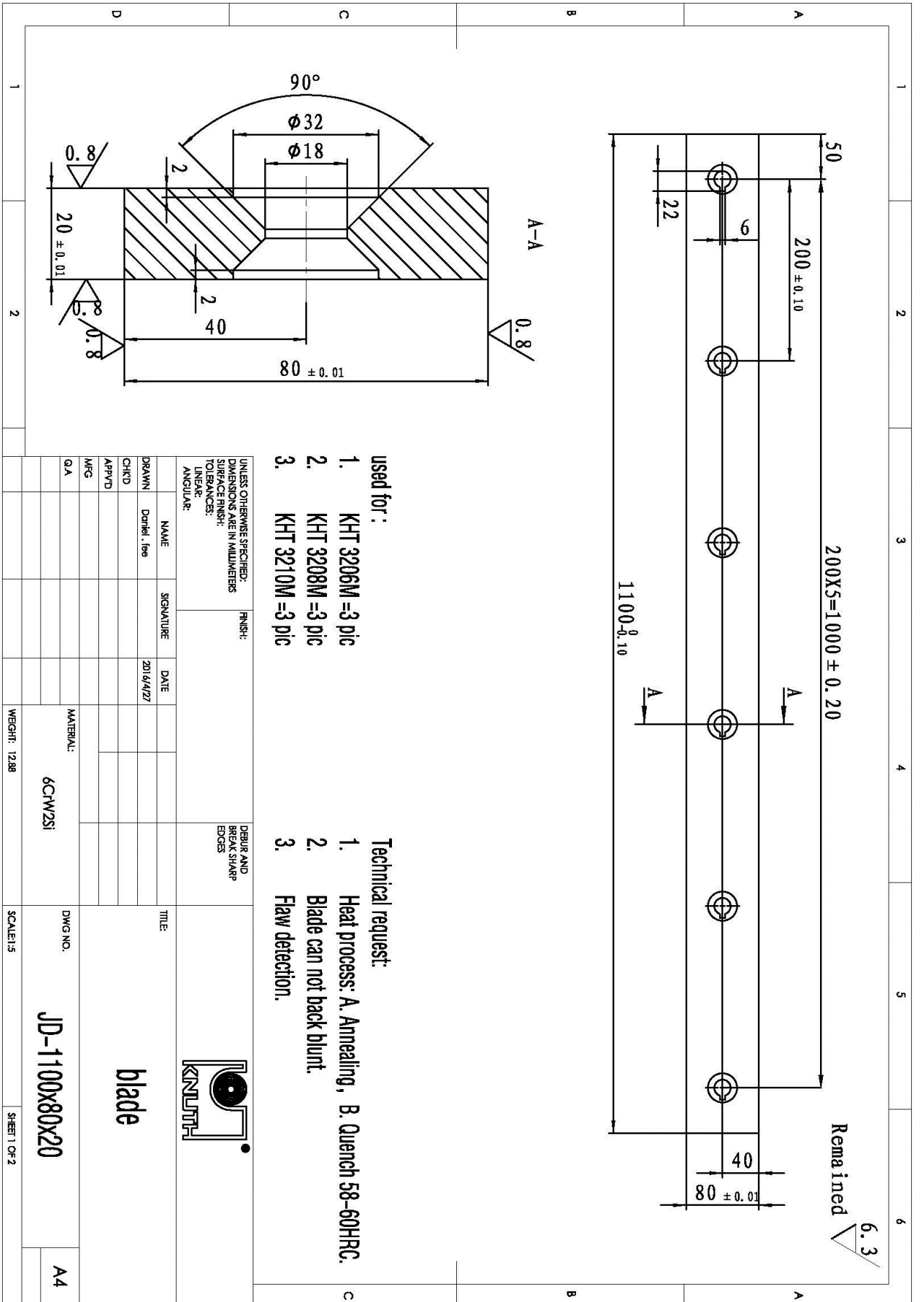
- 1) Prepare a bottle nitrogen that has sufficient pressure (gas supply station for sale);
- 2) Open accumulator cover on Turret;
- 3) Make inflatable tool attach with machine connect to the interface of inflatable mouth and nitrogen cylinder
- 4) Clockwise spin hand wheel on the gas charging device slowly, pressure gauges that display the current accumulator nitrogen pressure;
- 5) turn on valve switch on nitrogen cylinder slowly, then can crush in nitrogen to accumulator, immediately shut valve stop charging after achieving the required pressure;
- 6) Confirmed have closed valve on the nitrogen cylinder and inflatable tools, loosen open-air plug screw, remove inflatable tools after let out memory high-pressure nitrogen in pipeline, completed filling (supply) gas operation.



 **Danger:** In accumulator must use the purity more than 99 percent of the nitrogen, not other flammable, explosive gas instead, otherwise there will be the danger of an explosion!

10.4 Maintenance of mechanical parts

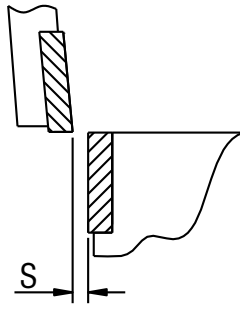
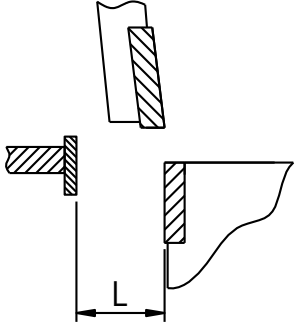
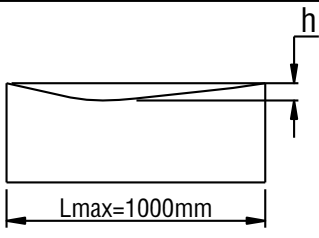
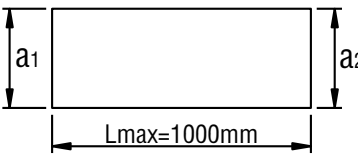
Check up all mechanical parts on regular, such as: chain, gear transmission, and so on, found component damage need timely replacement.



11 Packing list

Serial number	Code name	Appellation and specification	Unit	Quantity	Remark
1. main unit					
1		Hydraulic swing beam shear	set	1	
2. accessory					
2	YDT1-11	pedal switch	piece	1	Have protecting hood
3		Front extension arm	piece	2	
4	JB/T7942.1-1995	lever type grease gun	piece	1	4 model
5	GB799-1998	foundation bolt M16×500	piece	4	
6	GB6170-2000	nutM16	piece	4	
7	GB971-1985	gasketM16	piece	4	
8	CQJ-D-H/25	Charging tool	set	1	
9		electric box key	bunch	1	
3. spare parts					
10	GB3452.1-1992	0 Type Ball seat 11×1.9	piece	4	
11	GB3452.1-1992	0 Type Ball seat 30×3.1	piece	4	
12	GB3452.1-1992	0 Type Ball seat 35×3.1	piece	4	
13	GB3452.1-1992	0 Type Ball seat 45×3.1	piece	4	
14	GB3452.1-1992	0 Type Ball seat 60×3.5	piece	4	
15	GB3452.1-1992	0 Type Ball seat 70×3.1	piece	4	
16	JB982-1997	gasket14	piece	4	
17	JB982-1997	gasket22	piece	4	
18	JB982-1997	gasket27	piece	4	
19	JB982-1997	gasket33	piece	4	
20	JB982-1997	gasket39	piece	4	
21	JB982-1997	gasket42	piece	4	
22	JB982-1997	gasket48	piece	4	
4. file					
23		operating manual	portion	1	
24		Certificate of Compliance	portion	1	
25		Packing list	portion	1	

12 Test report

Inspection report					
NO:	Item	Method of inspection	Diagram	Precision	
				Allowance	Check result
1	The clearance evenness between the upper blade edge and lower blade edge	By clearance gauge measure several sizes "S" of the edge clearance between the upper blade and lower blade, Along the vertical direction of lower blade (not less than three points per meter). Error subject to the difference of the maximum reading and the minimum reading		$\leq 0.05\text{mm}$	
2	Parallelism between the lower blade edge and back gauge surface	Adjust back gauge to the foremost and final position, Using measuring tool measure the distance "L" between the lower blade edge and back gauge surface in several place. Error subject to the difference of the maximum reading and the minimum reading in any 1000mm		$\leq 0.50\text{mm}$	
3	Straightness of sheared plate shear plane	Put examine flat ruler near plate shear plane, By clearance gauge measure clearance "h" between the two. Error subject to the maximum reading in any 1000mm		$\leq 1.00\text{mm}$	
4	Parallelism of sheared plate	Using measuring tool measure in the vertical direction between two shear plane, Error subject to the difference of the maximum reading and the minimum reading in any 1000mm		$\leq 0.75\text{mm}$	

Inspector: _____

Inspected date: _____

13 Certificates of compliance

hydraulic shearing machine

KHT 3206M

QUALIFIED CERTIFICATE

Factory code: _____

After testing the machine meets the product manufacturing requirements is allowed to sale.

Inspector : _____

Inspector date : _____