CATALOG

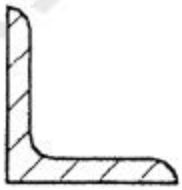
Foreword:

<QA34-10> Punching& shearing machine is the member of new series machine. This machine features mordem designing, rational structure, beautiful appearance, easy installation and application.With contrast to similar machines, it has smaller electricity consumption, bigger output power, wider scope of application. It is ideal selection for use in purpose of multistation shearing and punching of sheet and rofiles.

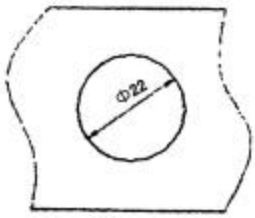
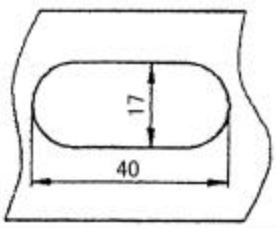
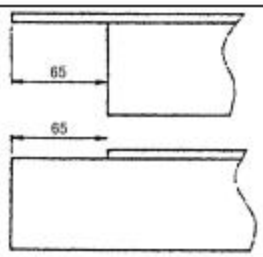
1. Property:punching & shesring machine

This machine applies to punching and shearing low carbon cold bar, angle steel, square steel and flat steel as well as steel plate whose tensile strengtg not more than 450MPA. It is used to perform profiled processing and hole making, also to processing the same way for nonferrous metals in above said shapes. This machine is especially suitable for procrssing in industries of machinery, electricity, construction, light industry factory. It excels in electricity economy, big power, small size and weight, compact structutre, easy operation and reparing.

Specifications sheet

Names of steel material	round bar steel	eaqual angle steel	steel plate	U-bar
Sectional view				
Size	Φ40	100X100X10	200X10	GB#12

Hole punching & profiled processing

processing scope	Hole punching	slotted hole punching	Special angle
Shape			
Size	22/10	40X16/10	L70X70X6

2、Technology standard

Number of travels/Minute 30times/minute

electric motor: 3Kw 380v

outside dimensions（mm): 1200X500x950(longXwideXhigh）

Weight: 800kg

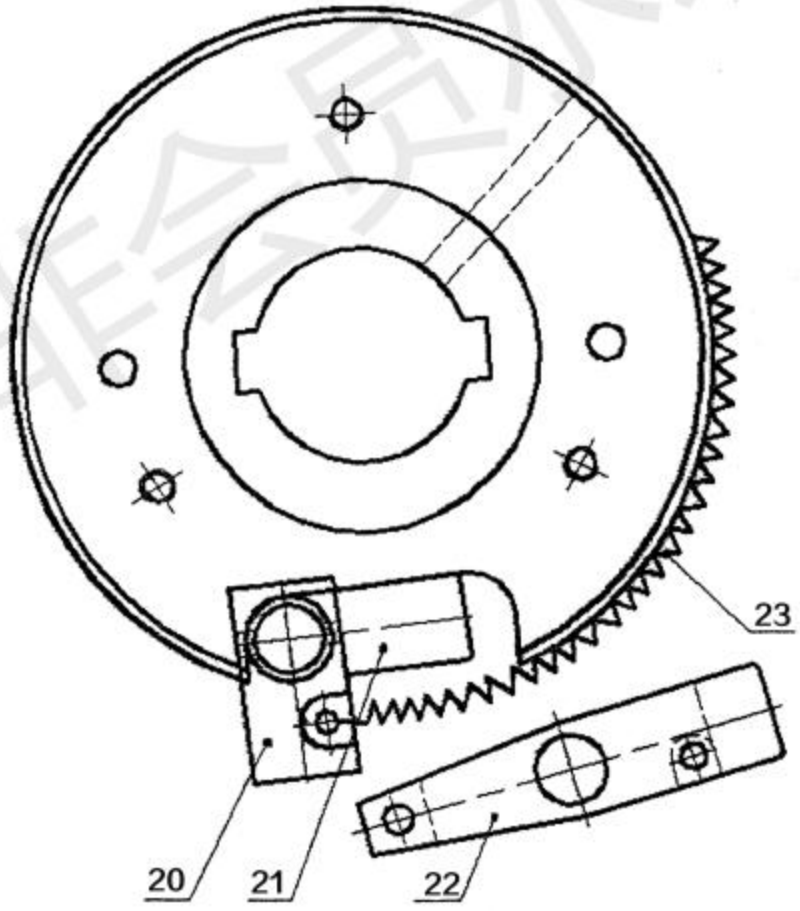
3、Structure

This machine is composed of electric motor, machine trunk, drive system, operating clutch system and working part. Electric motor drives big V-belt wheel, big V-belt wheel is installed on the bevel gear shaft and is secured by a bar key. The other bevel gear which is engaging the above said bevel gear transfers driving power by two sets of shfts and gears as well as clutches to eccentric shaft . By working of eccentric shaft and link bar(installed on eccentric shaft) to drive movable cutter seat going up and down within the machine, on the cutter seat there is movable blade, upper blade and punching head. On the left wall of machine trunk there are respectively fixed blade, lower blade and punching die.

Because the movable cutter seat goes up and down repeatedly, various profile materials can be shorn between the fixed and mivable blades. Plate materials and flat steel can be cut between upper blade and lower blade, holes and profile materials can be processed between punching head and punching die.

Distance between the two eccentric shaft 15mm, shearing cutter travel dustance is 30mm, when eccentric shaft rotates at rate 30rev./minute, the cutting blade goes the same times up and down, this means this machine offers 30times of shearing actions for every minute.

Movable cutter seat is controled by clutch, stepping down the switch then metal flexible shaft will pull linkbar 22 to detach turning key lock 20 so as to have turning key 21 being pulled out by spring 23 to engage the gear, the gear drives eccentric shaft so as to pull movable cutter seat goes up and down repeatedly. Releasing the stepping switch, operating linkbar will block turning key lock so that retreat the turning key back to clutch then detaching gear from eccetric shaft, the movable cutter seat stops moving.



4、 Lubrication and maintenance

（1）Maintenance

a. When machine is set ti place, first cleaning it, pasting new lubricating oil, operating machine after it is fully lubricated.

b. In operaton of machine, keep attentions at axle sleeve, bearung and electric motor temperature, when they gets high temperature then stop operating.

c. Should clean away the chips around tools.

d. Every group of worker finishing their work should clean the machine, oiling machine to avoid rusting, if nachine will stay a long term not operating then detatching the electric motor to store at a dry place.

（2）Lubrication

Good way of lubrication and correct oil ensures machine working in good condition and prolong the life of machine.This machine needs lithium or calcium based oil

a.According to lubrication requirements to oil (grease)machine timely and in required quantity.

b. Lubricating oil should be stored in sealed container to keep clean.

c. When machine will stop operation for a term, should paste oil(grease) on the sliding guide rail.

d. Diagram for lubrication

5、Installation and operation

(1) Installation

Before using the machine, it should be grounded with foundation bolt. To see the sketch to make the concrete foundation, when it gets dried then place nachine on the foundation and leveling the machine and fastening the machine. Afterwards, to operate the nachine and adjust it.

(2) Preparing work

a. Mnually rotate the big belt wheel to see if the gears engage finely.

b. Examining the fastening conditions at every parts and fastening the loosened ones, to check if the guard shield is safe enough, if there are obstacles at any parts of machine.

c. Electric circuit and electric motor should be wired according to regulated method to safely grounded.

d. As the way shown in diagram lubricate the nachine.

e. In trial operation free of loading, if strange noise heard then stop machine at once to examine the cause and repair it.

（3）Cautions in operation

a. When operating machine, please try to see if the inertia wheel rotates in correct direction, incorrect direction of rotation requires to stop using machine.

b. To shear a batch of materials, it is suggested to use a positioning board for easier continuous batch operating.

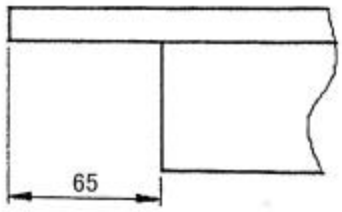
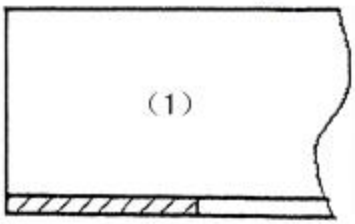
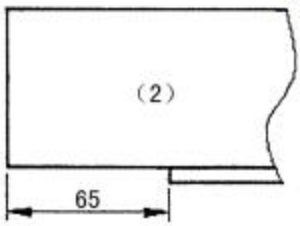
c. (1) Movable cutter blade , fixed cutter blade are used to cut angle steel, round steel bar and square steel.

(2) Upper and lower cutter blades are used to cut steel plate and flat steel.

(3) Punching head and bottom blade for profiled angle steel (see the sketch), punching head and punching die works to make holes punched.

(4) Various cutter blades and punchund heads can not be used in mixing or being used in same time.

Profiled angle steel shearing sketch

	shorn in one time	the first shearing	the second shearing
shape			
size	L70x70X6	L70x70X6 remarks:In order to shear the angle into shape of figure (2), it should first shear the angle steel into figure(1)	

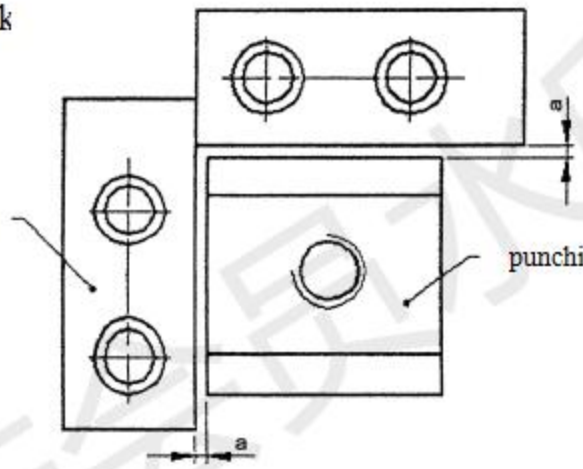
d. To shear angle steel between movable cutter and fixed cutter, it is to regulate the height of material support plate to decide the horseshoe shape of cutting mouth.

e. To shear the materials with upper and lower cutting blades , it is suggested to have the steel plate leveled by supporting slots otherwise the cutting blades will get broken quickly.

f. Gaps between blades and punching heads

(a) Upper cutting blade. when the lower cutter blade gets worn or just repaired, the distance between upper and lower blades should be regulated to about 3% of thickness of angle steel.

(b) Profiled angle steel punching head and bottom cutter is to regulated, the gap should be 1/10 of thick



bottom cutter for profiled angle steel

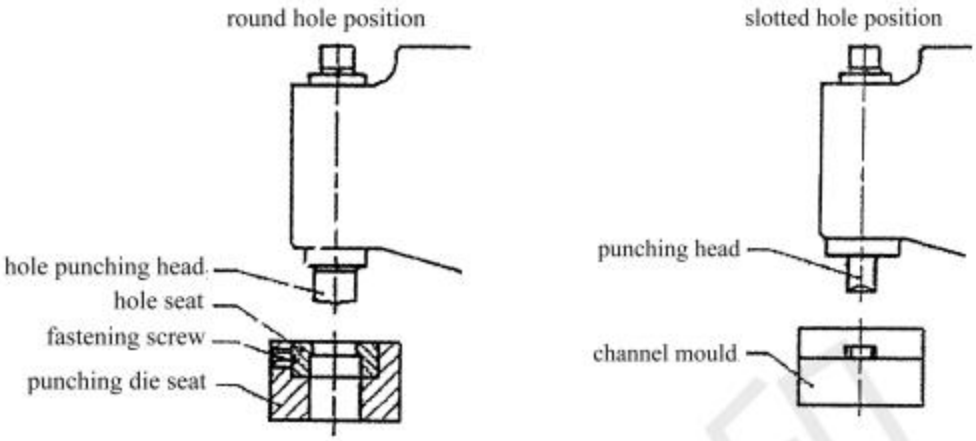
punching head for profiled angle steel

(c) Punching die should be regulated by screw to centre to centre with punching head then to use.

(d) When punching a round hole, to unmount the punching die and place a hole die onto punching seat then fasten it with screw, finally fastening the puching seat onto the machine trunk. Then regulating the punching head and punching die to have even gaps between punching head and punching die then go for work(if thickness of steel plate more than 6mm the frontt side bottom blade for profiled angle steel should be unmounted).

g. In replacing blades or reversing sides of blade, it inly need to loosen the screw fastening the pad which hold the blade then detach the pad and pressure block so as to unmount the fixed or movable blades or reversing the blades side. In mounting the blades, first mounting movable blade then mounting fixed blade, and then mounting pads and pressure block, finally fastening the screw(in replacing blades, please select appropriate thickness pad).Blade sides reversed then please have materials support plate sides reversed accordingly.

sketch

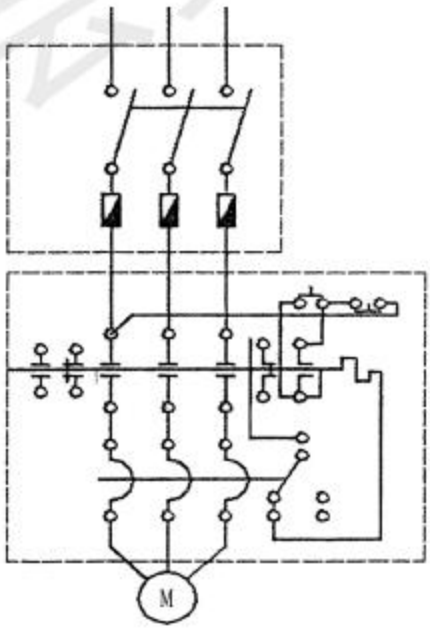


6. Electric devices connection diagram

(1) In operating machine, it is must to abide by safe operation rules.

(2) Electric devices connecting diagram

electric devices connection diagram



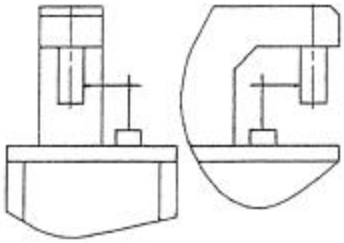
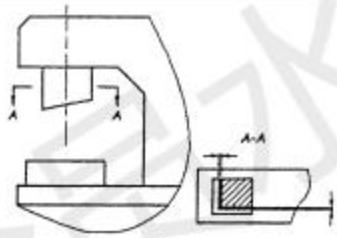
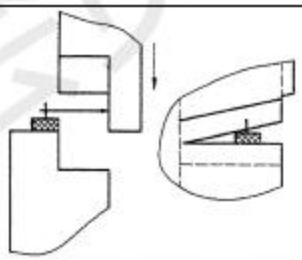
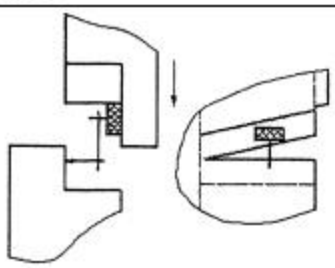
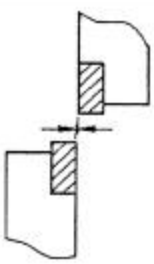
a. QC10L-2/6 magnetic starter (coil voltage 380V)

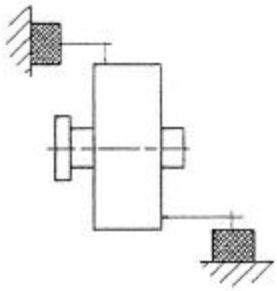
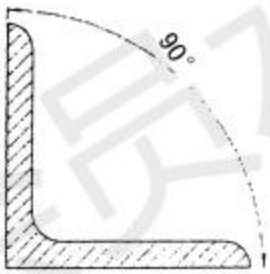
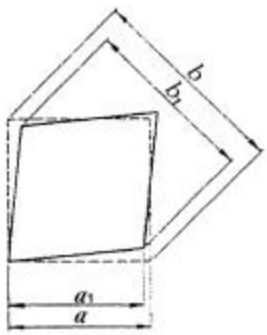
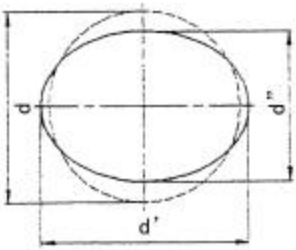
b. Electric motor: 3KW (380V)

7. Easily worn parts sheet

No.	name	quantity
1	eccentric shaft flange bronze sleeve	1
2	bottom blade for special angle steel	2
3	punching head for special angle steel	1
4	bronze sleeve for link rod	1
5	flange sleeve for eccentric shaft	1
6	channel mould	1
7	long punching head	1
8	hole pattern	1
9	hole punching head	1
10	pull back spring	1
11	sliding bush	1
12	rectangular turning key	1
13	upper blade	1
14	lower blade	1
15	movable blade	1
16	fixed blade	1
17	roller bearing	(32211) 4sets
18	roller bearing	(32212) 2sets
19	V-belt	(A1473) 3pcs

Items

	No.	Items	sketch	acceptable error (mm)	tested error (mm)
geometric precision	1	parrallelism of sliding seat travel line and rod of punching head on the sliding seat		0.15（X direction）（bottom end of testing rod slanting towards cutter seat only） 0.15（Y） direction	
	2	gaps between upper blade and lower blde of punching head for special angle steel		0.30～0.75	
	3	parrelellism between upper blade seat travel line and vertical support plane which is laminating to upper blabe		0.10（when upper blade seat moving down, two vertical planes which seperately laminating to upper）	
	4	parralellism between the upper blade seat travel line and vertical support plane laminating to lower blade		0.10（when upper blade seat moving down, two vertical planes which seperately laminating to upper ）	
	5	gap between upper and lower blades for shearing steel plate		0.06～0.26	

	No.	testing items	sketch	acceptable error (mm)	tested error (mm)
geometric precision	6	radial play of flywheel and the end plane circle jumping		0.10 (radial play)	
				0.20 (end plane jumping)	
	7	quality of punched hole and shorn plate steel		big tearing and burrs are not allowed	
	8	distortion of angle steel		+1.5° -2.5° (angle steel for test should be longer than it's side length, testing position 5mm away the shorn end plane)	
	9	side length variation of square steel (a-a1)		2.4	
		variation of diagonal line length of square steel (b-b1)		3.4	
	10	ovality of steel rod (d' -d")		4.5	

QA34-10punching and shearing machine

packing list

No: _____ packager: _____ date:

1、type of goods: QA34-10

2、measures of box: 1200X500X950 (longXwideXhigh)

3、N.W.: 800kg

4、packager

No.	item	size	quantity	remarks
1	punching & shesring machine		1set	
2	grease gun		1pc	
3	wrenches		1 set	
4	operating manual		1 pc	
5	Certificate of Qualificaton		1 pc	

QA34-10punching & shesring machine

Certificate of qualification

According to test, this machine is qualified for factory standard and permitted for dispatch

serial no.:

inspection chief:

inspector:

Year Month Day

HENAN MASTER MACHINERY CO.,LTD