



Vertical Diamond Cut Alloy Wheel Lathe Operation Manual USA



Model: *TY30-VS*



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1. Safety Notes

1.1 Safety Specification

This machine is equipped with safety devices designed to protect operators from being hurt or the machine being damaged. Operators should thoroughly read this Manual as well as undergo the compulsory training programme before operating this Machine.

Ensure there is sufficient space around the Machine to open the electrical-box door for maintenance/repair and space to allow normal access to and from the machine. Assign qualified electrical personnel to wire this Machine from the plant power supply.

Do not operate the machine if any safety devices have been damaged or removed.

1.2 General Safety Notes

1. If you have any safety queries – do not operate the machine.
2. All maintenance and repairs must be undertaken by skilled and trained personnel..
3. Operator should wear appropriate clothing during operation. Do not wear loose fitting clothing and remove or cover rings and watches.
4. Operators must use approved personal safety equipment.
5. Do not allow other personnel to stand around the machine while it is operating.
6. Ensure the work area around the machine is free from obstruction.
7. When cleaning the machine or removing machined parts do not climb into the machine.
8. Keep the work area clean and dry.
9. Do not store or keep flammable or hazardous substances near the machine.
10. Do not try to modify this Machine or method of operation.
11. Keep the observation window clean.
12. This Machine is equipped with three-colour alarm light to indicate the alarm status (red-danger (push the emergency-stop button), amber-warning (abnormal occurs), and green-normal in operation).
13. Do not attempt to machine oversize work pieces.
14. Do not leave any article or tool within the work chamber.

1.3 Notes after Machining Operation Stops

1. Before opening the Access Doors, be sure that the chuck has stopped turning.
2. After the dry-cutting process is complete and before removing the workpiece, be sure to put on safety gloves (to avoid skin-burn).

1.4 Notes on Handling Abnormal Status

1. Once an abnormal status occurs, press the emergency stop button immediately.
2. Before accessing Machine's inner space, be sure that the main power supply is off and the machine is stationary.
3. If in doubt, press the Emergency Stop Button and seek advice.

1.5 Maintenance Safety Notes

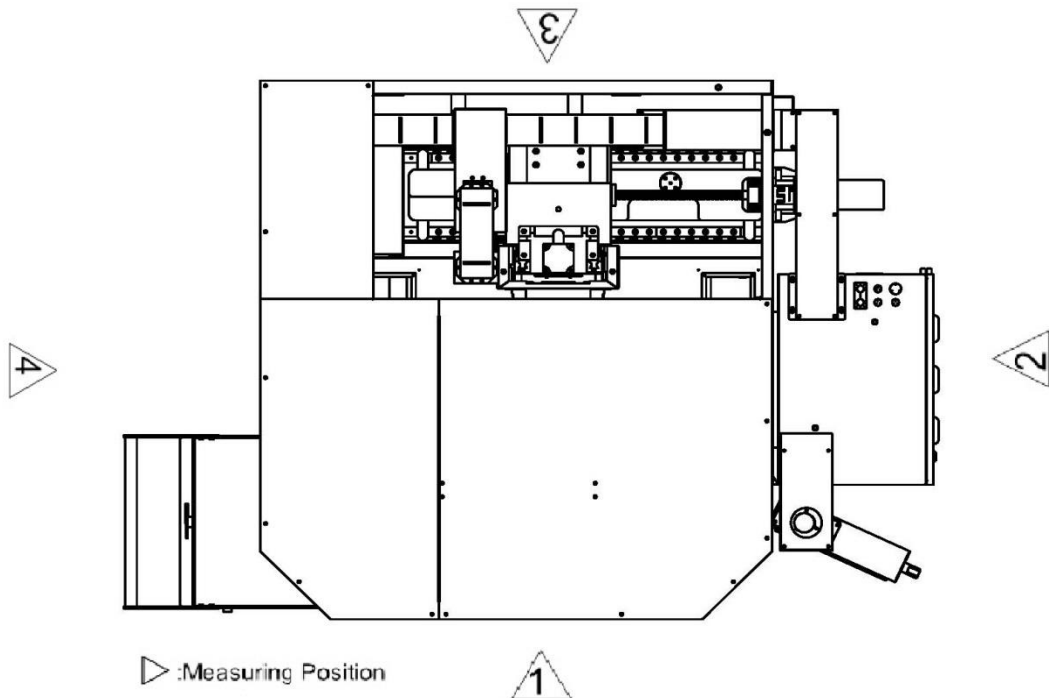
1. Before performing maintenance works, shut down main power supply and lock off.
2. Do not leave the machine in an exposed condition and un-attended..
3. After work is completed, do not leave any tool or part in the Machine or on the operation panel.
4. Clean up the chip tank regularly and wear the correct hand-protection to prevent allergy or cuts.
5. Keep the observation window clean. If the transparency is blurred, replace it immediately.

1.5.1 Routine Maintenance

- (1) Keep the Machine bed clean.
- (2) Tune the indicating gauges (pneumatic and lube oil) to correct positions.
- (3) Ensure that lube oil reaches the guide-way.

1.6 Noise

Per ISO/DIS 230-5 Standard, noise of Machine either at stationary or running status should be lower than 80 dBA. If over this level, inform us immediately to correct the Machine. The inspection positions are shown in the figure below.



Measurement standard: according to Machinery Directive 98/38/CE Annex I article 1.7.4(f) specification.

Spindle speed: 80% of the maximum speed value.

Measuring distance: 1m from the machine housing.

Measurement height: 1.6m from the ground

2. Machine Brief Introduction

2.1 Mechanical Specification

TY30-VS SPECIFICATION			
Model		Unit	VTL30
Control	Control System		BECKHOFF
Travel	X-axis Travel	mm(inch)	508(20")
	Z-axis Travel	mm(inch)	457(18")
	Max.Turning Diameter	mm(inch)	762(30")
Table	Jaw Chuck(Manual)with Soft Jaw	inch	16" - 3
Distance	Distance from Spindle end to Table	mm(inch)	0-457(0~18")
	Spindle Nose Taper / Tool		A2-6
Spindle	Spindle Speed	rpm	60~1000
	Spindle Type		Belt Drive
	Spindle Motor	KW(HP)	7.6(10HP)/4P
	2 axes Servo Motors (X/Z)	KW	1.3
Feed	X-axis Rapid Traverse	M/min	10 / Direct Drive
	Z-axis Rapid Traverse	M/min	10 / Direct Drive
	Cutting Feedrate	M/min	10
	Min. Input Unit	mm/min	0.001
Installation Requirements	Weight (about)	t	2

Standard accessories :

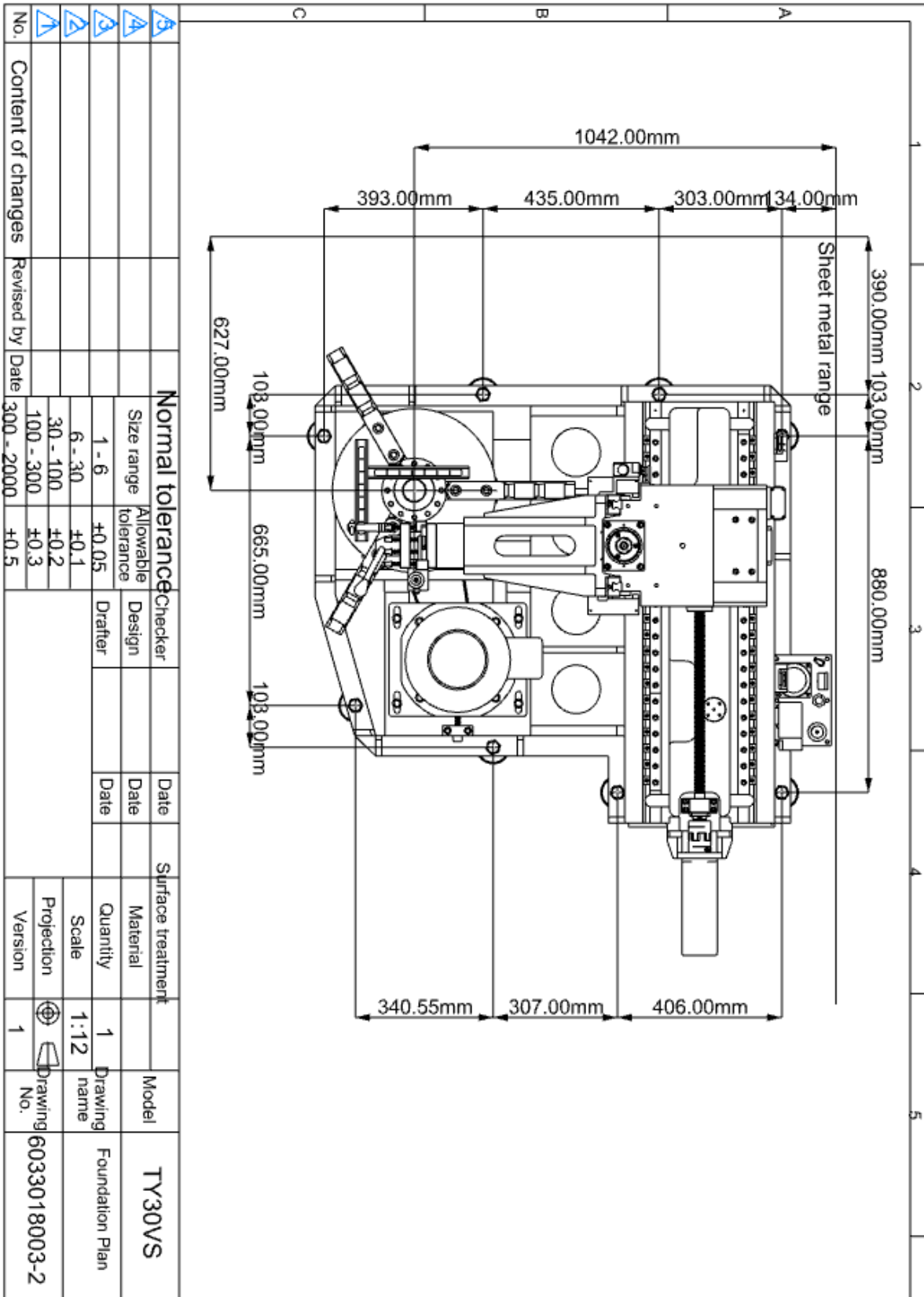
1. Digitising Probe
2. Diamond Cutter
3. USB & Etherent Ports
4. Halogen Work Light
5. Auto Lube
6. Way Covers
7. Chip Tray
8. Tools & Tool Box
9. Four Way Tool Post

2.3 Assembly Drawing & Machine list

		5		4		3		2		1	
No	Material No	Name	Q'ty								
1	60330VSB03	base unit	1								
2	60330VSC02	Column unit	1								
3	60330VSH02	Head unit	1								
4	60330VSE03	Outer cover plating	1								

No.	Content of changes	Revised by	Date	Normal tolerance		Checker	Date	Surface treatment	Model	TY30VS
				Size range	Allowable tolerance					
5						Design		Material		
4				1 - 6	±0.05	Drafter		Quantity	1	Drawing name
3				6 - 30	±0.1			Scale	1:22	
2				30 - 100	±0.2			Projection		Grand Assembly Drawing
1				100 - 300	±0.3			Version	1	Drawing No.
				300 - 2000	±0.5					6033018003-3

2.4 Foundation Plan

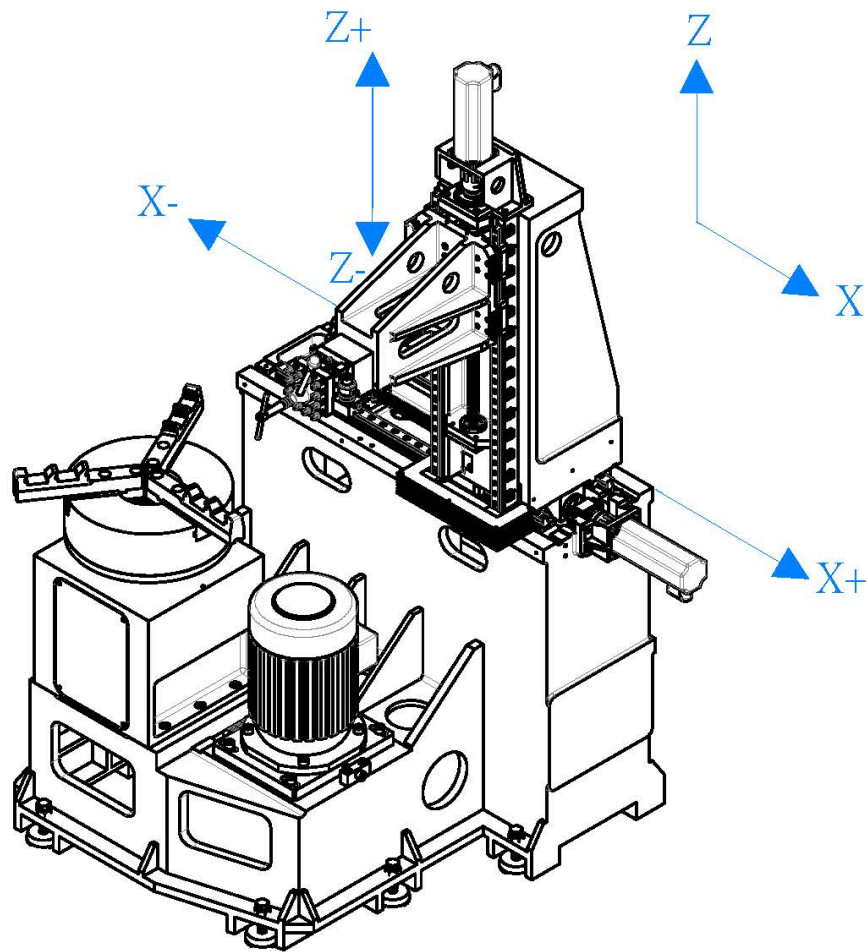


2.5 Mechanical Coordinate System

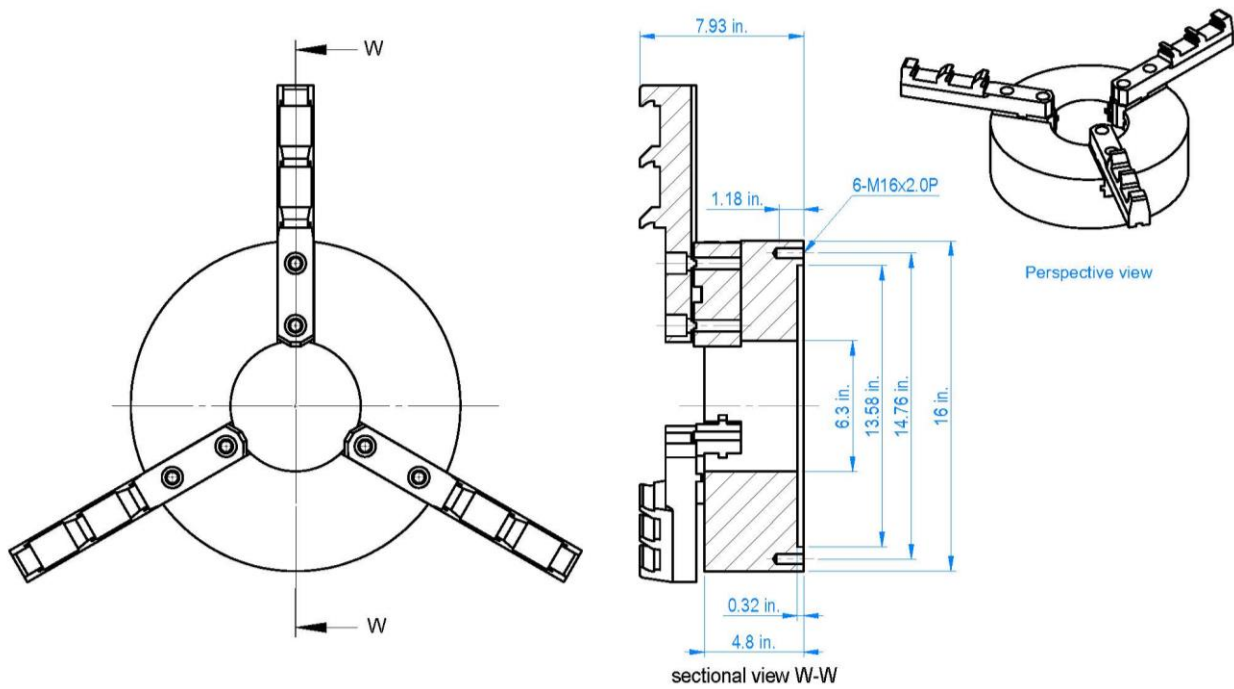
Axis-definitions are expressed in below:

X-axis: X-axis is the direction that tool post moves right/left; (+) for right movement and (-) for left one.

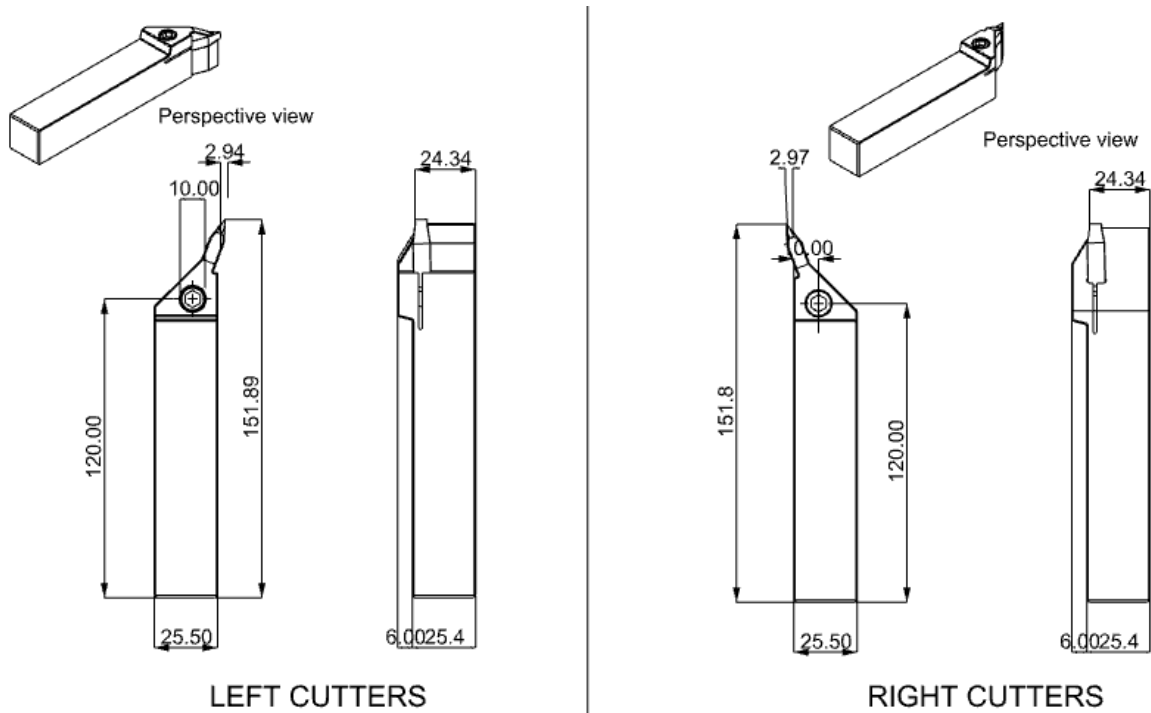
Z-axis: Z-axis is the direction that tool post moves up/down; (+) for up movement and (-) for down one. tool post



2.6 Jaw Chuck size



2.7 Tool Holder Dimension Drawing



3. Move, Store and Install the Machine

3.1 Pre-installation Preparation Works

1. Power source: required power supply specification:

Power	Voltage	Frequency	Phase
Specification	220V	60 HZ	3+Neutral+Earth

2. Pneumatic - air pressure used to clean up spindle, cool down cutting is 5 ~ 7 KG/CM², at least 90 NL/min of supply.

3. Oils: feed in required oils before starting this Machine:

Purpose	Product name	Viscosity (40°C)	Capacity	Remark
Lube oil	Guide-way oil	61.2 ~ 74.8	2L	ISO VG68,R-68, K68

4. Precision measuring equipment:

1. 0.02mm/M level meter, at least two pieces.
2. Gauge-carried magnetic seat 1/100, 2/1000mm, one or more set each.
3. One granite right-angle ruler.

5. Space requirement:

To plan for Machine layout space, reserve sufficient space for the operation/maintenance and access to and from the machine.

3.2 Unload and Moving the Machine

1. Unload the Machine package: (refer to the pictures below)

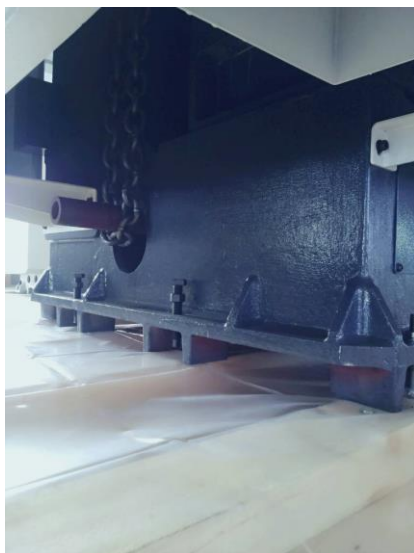
The Machine is mounted on a stillage, use forklift to unload the package from container.

Unload the Machine as shown in the pictures:



(2) Removing the machine from the pallet:

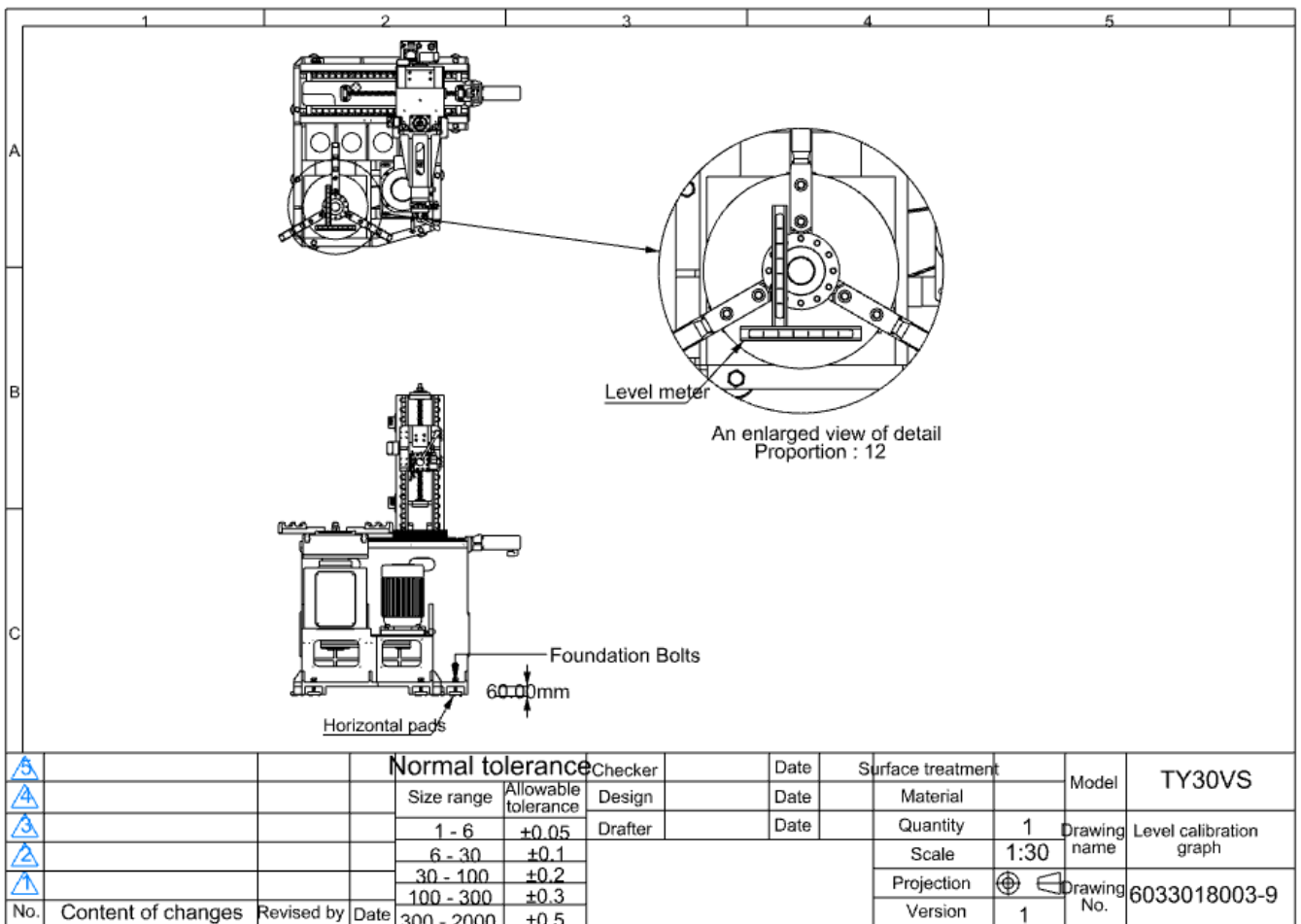
- a. Remove the 2- covers in front of X axis cover.
Insert a steel bar inside the machine base. (See the figure below)
- b. Pass a chain through the 2 openings and loop the chain around the steel bar from both side of the machine.
- c. Then the machine can be lifted.
- d. Suitable protection should be used to prevent the chains damaging the paint Finish of the machine.



3.3 Installation and Levelling

3.3.1. Machine leveling adjustment

- (1) Use the leveler 0.02 mm/m on the center of the chuck, fix the leveler on the X axis direction and manually turn the chuck, adjust the level of X axis until the air bubble in the leveler is centered. Repeat for Z axis.



3.3.2 Install the Peripherals

Installing steps of peripherals

No.	Steps	Explanation
1	Compressed air source	Connect air supply to input point.
2	Filling track lubricants	Fill lubrication system..
3	Remove the mount block	Remove the mount blocks in X- & Z-axis; don't remove the wooden block that supports the spindle head.
4	Mount and install the wiring lines	Follow the wire numbers connecting and mounting the dismantled wires/pipes.
5	Electric control	After checking the electric control lines, connect them.
6	Turn on power to make test run	<ul style="list-style-type: none"> a. Certify the correctness of power phases. b. Certify the correctness of motor turning direction. c. Check if pipe connectors are connected correctly and locked tight; mechanism locations are correct (mechanism should be located at respective location normally). d. Lift the tool post head; take out the supporting pads.
7	Certify track lubrication	Check if the lube system feeds lube oil? Are two lube oils distributed properly?
8	Clean	Clean the anti-rust oil on jaw chuck & tool post; clean up dust on Machine and wipe it clean.
9	Commissioning	<ul style="list-style-type: none"> a. First, manually return Machine's three axes back to HOME point manually in slow speed. b. Return the two axes back to HOME point by 100% fast speed; certify if the HOME points are same. c. Check if stroke of each axis follows the set one? If over-stroke is effective? d. Follow the attached parameter table to check if controller's display meets the parameter table or not? e. Are the spinning directions and speed of positive/reverse turns normal?
10	Warm-up run	During running, follow the precision inspection table to make commissioning run.

3.4 Power Requirement

Power and ground

Main power input 3 phase 415V with Neutral and earth

32 Amps per phase

Single Phase Not Required

7. Notes on installing power source and grounding work

- (1) Do not co-use power cable with other machines. Provide an independent power line for this Machine.
- (4) Power cable's external terminals must be protected by a fuse or breaker.
- (5) The grounding resistance should be less than 50Ω .
- (6) Grounding line color is yellow-green.

Graphic demonstration of machine grounding:

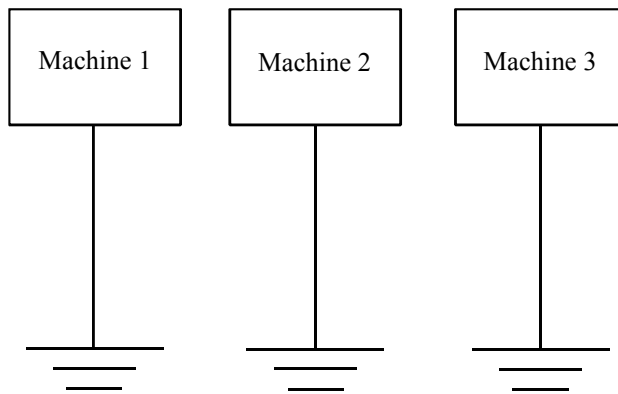


Fig. 1: Single set grounding

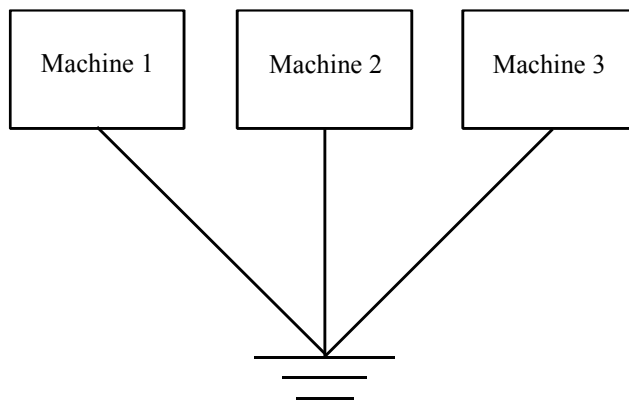


Fig. 2: Multi sets grounding

3.5 Compressed Air Source

1. Use clean air source.
2. Confirm that the air source can provide necessary air flow-rate.
3. Air pressure should exceed 6 kg/cm².
4. Arrangement of reserved pipelines:
 - (1) Compressed air must be filtered and be clean and dry (dew point, 6 kgf/cm², 10°C).
 - (2) Supply or compressed air must satisfy Machine's consumption requirement (1-hp air compressor that supplies 9 0NL/min is approx. enough).
 - (3) Refer to the drawing below for the input points of compressed air and power supply.
The compressed air fast-connector size is 9.525 mm (3/8 in.).

3.6 Other Objects

Clean Utensils Requirement Table

Name	Specification/Quantity	Remark
Kerosene	1L	Used to clean the Machine
Non-volatile cleaning agents	0.5L	Used to clean the Machine
Rag	10 pieces	Used to clean the Machine
Fur brush	1 piece	Used to clean the Machine

4. Pre-boot Preparation Works

4.1 Pre-boot Check

In order to ensure the safety of operators and Machine, check the following items before booting

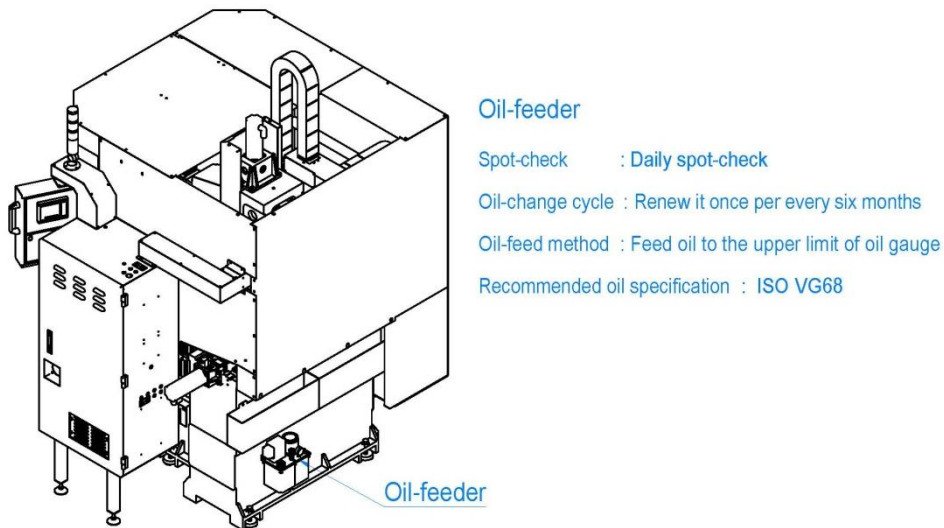
1. Check if oil in the lube oil tank is sufficient?
2. Ensure that space around the Machine and control system is clear.
3. Ensure that every panel and door is closed.
4. Ensure that all control switches are at good condition.
5. Is there anyone in the Machine's danger area?
6. Does operator wear suitable clothing and correct personal protection equipment
7. Clean up residual water in the air pressure regulators filter.
- 8.. Check if compressed air, lubrication, hydraulic and cooling system pipelines are secure.
9. Check and make sure that all safety devices are operating.
14. Certify that tools and workpiece is secure..

4.2 Oil-feed and Oil Types

1. The Machine two axis guide-ways and ball screw are under forced-lubrication operation with auto oil-feeding.
2. Prior to booting, check if lube oil is sufficient.
3. Always use the correct lube oil; incorrect oil will reduce Machine's lifetime and may cause malfunction.
4. Lube oil flow-rate is adjusted prior to delivery. Unless the loop is clogged or faulty, do not adjust it.

4.2.1 Machine's Oil-feed Points

The following diagram presents the Machine's oil-feed points. While feeding or replacing oil, do it at the specified oil-feed points (see the recommended oil list shown in next page).



4.2.2 Referenced Machine Oils

Recommended oil list:

Position	Spot-check/oil-change cycle	Method	Oil tank capacity (Unit: L)	Recommended oil specification
Oil-feeder	<ul style="list-style-type: none"> • Daily spot-check • When lube-oil-low alarm appears • Renew it once per every six months 	Feed oil to the upper limit of oil gauge	2	ISO VG68 MOBIL, DTE 26 SHELL, TELLUS 68 ESSO, TERESSO 68 CASTROL, ALPHASP 68

4.3 Chips Removal

Manually clean the chips, sweep the chips to the front left corner where the chip tank located.



5. Machine Maintenance and Tuning

5.1 Maintenance Period

5.1.1 Maintenance Interpretation

Regular maintenance can extend Machine's operation lifetime and maintain its working efficiency.

In this section we'll provide the maintenance methods of systems/units and suggested maintenance schedule. When performing maintenance, substantially obey the methods/time presented in this section.

5.1.2 Machine Regular Maintenance Frequency List

Machine regular maintenance frequency list (1/3)

	Maintenance work content	Daily maintenance	Weekly maintenance	Monthly maintenance	Half year maintenance	Yearly maintenance	Remark
Pneumatic system	Check pneumatic air pipelines	D	W	M	H	Y	
	Check the air pressure	D	W	M	H	Y	

Machine regular maintenance frequency list (3/3)

	Maintenance work content	Daily maintenance	Weekly maintenance	Monthly maintenance	Half year maintenance	Yearly maintenance	Remark
Oil-feeder	Check lube oil level	D	W	M	H	Y	
	Check oil-feed pressure		W	M	H	Y	
Operation panel	Check indicators on panel	D	W	M	H	Y	
	Check switches on panel	D	W	M	H	Y	
Electrical box	Clean up heat exchanger filter		W	M	H	Y	
	Clean electrical box			M	H	Y	
	Clean electrical components			M	H	Y	
	Lock up devices in electric-box			M	H	Y	
Other	Clear jaw chuck chips	D	W	M	H	Y	
	Clear machine chips	D	W	M	H	Y	
	Clean up chips in X-, Z-axis cover	D	W	M	H	Y	
	X-axis cover oiling		W	M	H	Y	
	Locking tool holder	D	W	M	H	Y	
	Clean up chips on tool holder	D	W	M	H	Y	
	Check two axes track				H	Y	
	Check two axes screw				H	Y	
	Clean up chips on anchor bolts			M	H	Y	
	Anchor bolts oiling			M	H	Y	
	Check the tightness of anchor bolts				H	Y	
	Clean up chips in flexible shielding tube			M	H	Y	
	Check pipeline in shielding tube			M	H	Y	
	Check flexible shielding tube				H	Y	
	Clean up chips on top of column	D	W	M	H	Y	
Discharge recycled lube oil from two-axis		W	M	H	Y		

5.1.3 Maintenance Check Sheet

1. Daily maintenance sheet

Model/Machine No.: /

Maintenance date: By: Confirmed:

Daily maintenance					
Item	Maintenance work	Maintenance type	Checked/confirmed		Remark
01	Check air pressure of air-pressure regulator	DWMHY	<input type="checkbox"/> Accomplished	<input type="checkbox"/> Not performed	
02	Clean up chips in chips tank	DWMHY	<input type="checkbox"/> Accomplished	<input type="checkbox"/> Not performed	
03	Check if oil in oil-feeder is sufficient	DWMHY	<input type="checkbox"/> Accomplished	<input type="checkbox"/> Not performed	
04	Check if the indicators on the board are all normal	DWMHY	<input type="checkbox"/> Accomplished	<input type="checkbox"/> Not performed	
05	Check if the switches on the board are all normal	DWMHY	<input type="checkbox"/> Accomplished	<input type="checkbox"/> Not performed	
06	Clean up chips on jaw chuck	DWMHY	<input type="checkbox"/> Accomplished	<input type="checkbox"/> Not performed	
07	Clean up chips in machine	DWMHY	<input type="checkbox"/> Accomplished	<input type="checkbox"/> Not performed	
08	Clean up chips in X-, Z-axis cover	DWMHY	<input type="checkbox"/> Accomplished	<input type="checkbox"/> Not performed	
09	Locking tool holder and pull handle	DWMHY	<input type="checkbox"/> Accomplished	<input type="checkbox"/> Not performed	
10	Clean up chips sticking on tool holder	DWMHY	<input type="checkbox"/> Accomplished	<input type="checkbox"/> Not performed	
11	Clean up chips on column	DWMHY	<input type="checkbox"/> Accomplished	<input type="checkbox"/> Not performed	

2. Weekly maintenance sheet

Model/Machine No.: /

Maintenance date: By: Confirmed:

Weekly maintenance					
Item	Maintenance work	Maintenance type	Checked/confirmed		Remark
12	Check if oil-feeding pressure of oil-feeder is normal	WMHY	<input type="checkbox"/> Accomplished	<input type="checkbox"/> Not performed	
13	Clean up dust on electric-box fan	WMHY	<input type="checkbox"/> Accomplished	<input type="checkbox"/> Not performed	
14	Jaw chuck surface antirust-oiling	WMHY	<input type="checkbox"/> Accomplished	<input type="checkbox"/> Not performed	
15	Antirust-oiling and lubrication of X-protection covers	WMHY	<input type="checkbox"/> Accomplished	<input type="checkbox"/> Not performed	
16	Tool holder antirust-oiling	WMHY	<input type="checkbox"/> Accomplished	<input type="checkbox"/> Not performed	
17	Discharge recycled lube oil from three-axis	WMHY	<input type="checkbox"/> Accomplished	<input type="checkbox"/> Not performed	

3. Monthly maintenance sheet

Model/Machine No.: /

Maintenance date: By: Confirmed:

Monthly maintenance					
Item	Maintenance work	Maintenance type	Checked/confirmed		Remark
18	Clean fan filter	MHY	<input type="checkbox"/> Accomplished	<input type="checkbox"/> Not performed	
19	Clean up dust and foreign matter in electrical-box	MHY	<input type="checkbox"/> Accomplished	<input type="checkbox"/> Not performed	
20	Clean up dust on electric devices	MHY	<input type="checkbox"/> Accomplished	<input type="checkbox"/> Not performed	
21	Adjust and lock up electric devices	MHY	<input type="checkbox"/> Accomplished	<input type="checkbox"/> Not performed	
22	Clean up chips on anchor bolts	MHY	<input type="checkbox"/> Accomplished	<input type="checkbox"/> Not performed	
23	Anchor bolts antirust-oiling	MHY	<input type="checkbox"/> Accomplished	<input type="checkbox"/> Not performed	
24	Clean up chips in flexible shielding tube	MHY	<input type="checkbox"/> Accomplished	<input type="checkbox"/> Not performed	
25	Check if the piping layout inside shield tube is normal	MHY	<input type="checkbox"/> Accomplished	<input type="checkbox"/> Not performed	

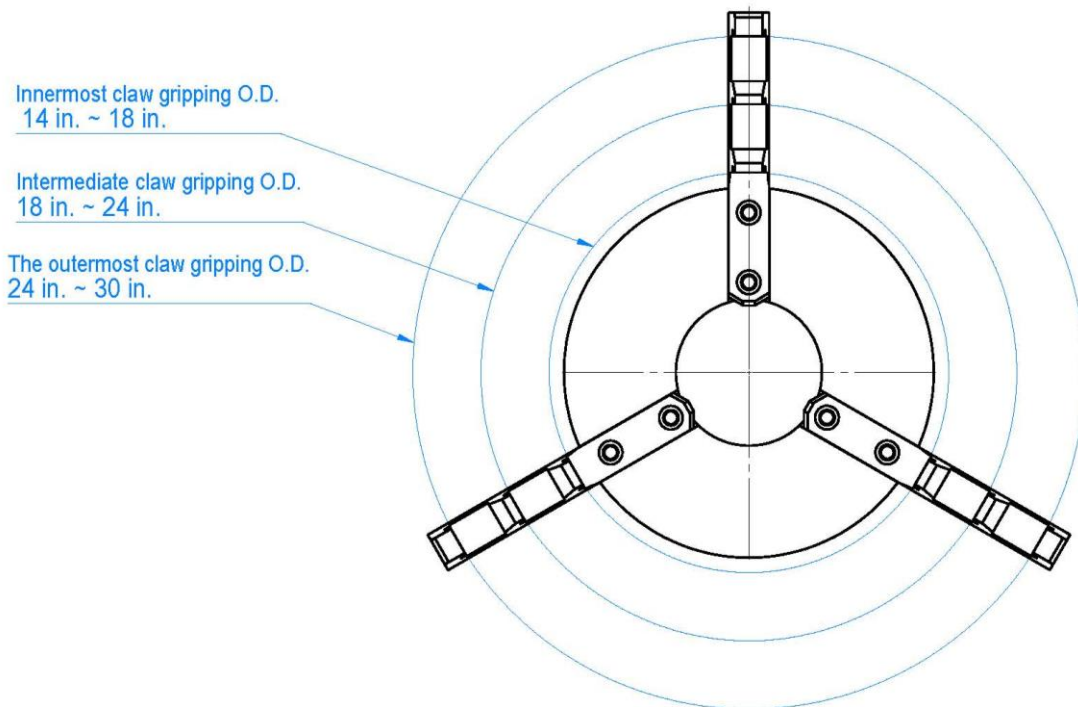
4. Yearly maintenance sheet

Model/Machine No.: /

Maintenance date: By: Confirmed:

Yearly maintenance					
Item	Maintenance work	Maintenance type	Checked/confirmed		Remark
26	Check if the tracks of two-axis are normal	HY	<input type="checkbox"/> Accomplished	<input type="checkbox"/> Not performed	
27	Check if the screws of two-axis are normal	HY	<input type="checkbox"/> Accomplished	<input type="checkbox"/> Not performed	
28	Check if anchor bolts are normal	HY	<input type="checkbox"/> Accomplished	<input type="checkbox"/> Not performed	
29	Check if flexible shielding tube is normal	HY	<input type="checkbox"/> Accomplished	<input type="checkbox"/> Not performed	

5.2 Soft jaw chuck Mechanism

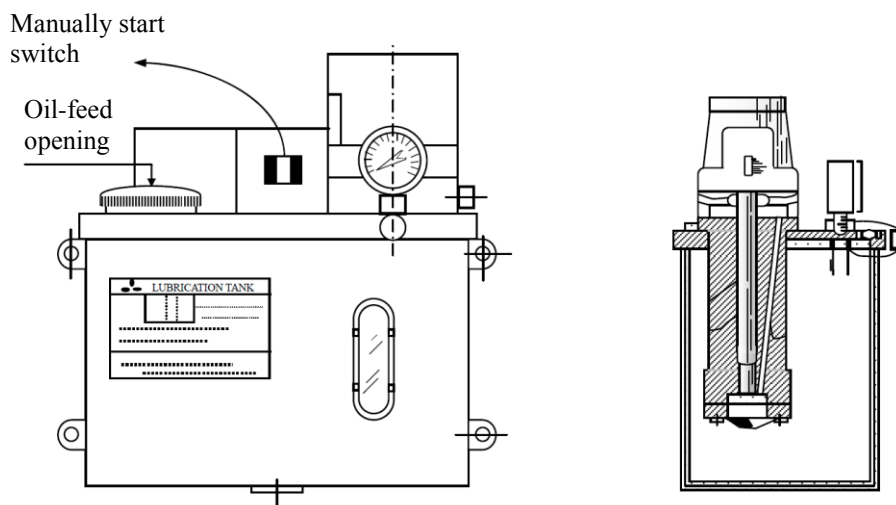


5.3 Forced Auto Lubricator

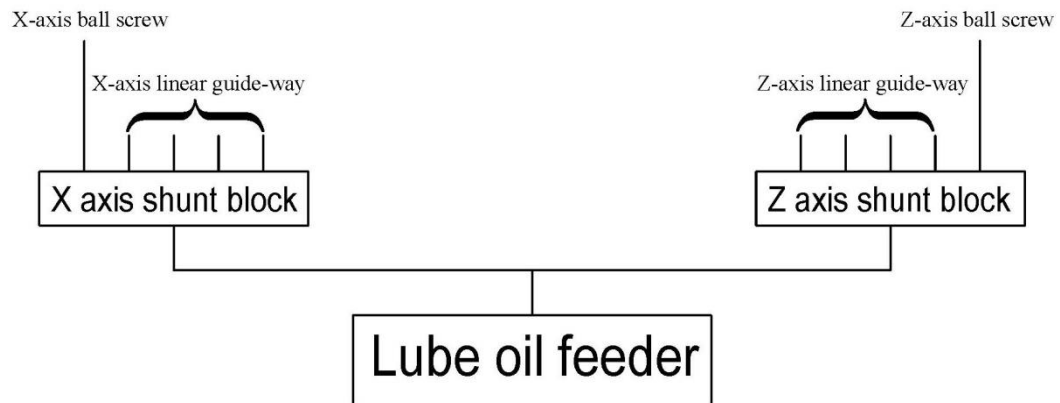
Electric Lubricator specification

Type	Lubricating time	Intermediate time	Maximum flow-rate	Maximum pressure
JY19B	1-99 sec.	1-99 min.	180 c.c/min	8 kg/cm ²
Floating-ball switch	Oil tank capacity	Three-phase voltage	Motor output power	Connector diameter
3	2 L	220V/0.3A	51 W	PT 1/8

Graphical demonstration:



1. Lube oil unit loop



2. Oil-feeding method and feeding adjustment

This Machine applies forced oil-feeding. Oil supply may be operated automatically or manually.

- (1) Manual oil feeding: after pressing the start button, pump motor runs to feed oil out; release the button to stop pump.
- (2) Auto oil feeding: when Machine power is on, oil feeder is under oil-feeding status; it follows the set running/stop time to feed oil automatically.
- (3) Oil-output point: each oil-output point applies the volume-distribution valve; each output point follows the designed oil-output flow-rate using different distribution valve.

3. Note

- (1) This Machine is a fully automatic model. It is equipped with floating switch and auto-alarm buzzer; once oil amount is in short, alarm indicator is lit automatically, reminding operator to feed-in oil. Alarm line is connected to CNC controller; if oil amount or pressure is insufficient, Machine cannot be started in CNC AUTO mode; alarm displays.
- (2) At least clean filter once per year.
- (3) Check Daily if oil amount is sufficient.

4. Troubleshooting of lubrication unit

Item	Fault status	Reason	Troubleshooting method
1	Oil output fails to output oil	<ol style="list-style-type: none"> 1. Pipeline is clogged. 2. Lube oil viscosity is too high. 3. Filter net is clogged. 4. Oil amount is insufficient. 5. Floating switch is fault. 6. Check valve is clogged. 7. Pump parts fault. 8. Pipe leaks. 	<ol style="list-style-type: none"> 1. Clean up or replace pipeline. 2. Change to approved oil. 3. Remove clogging. 4. Feed oil. 5. Replace. 6. Remove clogging. 7. Repair. 8. Replace pipeline.
2	Alarm appears	<ol style="list-style-type: none"> 1. Pressure switch is short-circuited. 2. Pipe leaks. 3. Pumping pressure is not enough. 	<ol style="list-style-type: none"> 1. Replace pressure switch or cable. 2. Replace pipeline. 3. Repair pump. 4. Replace pump.
3	Oil-feeding flow-rate is wrong	<ol style="list-style-type: none"> 1. Component parts are worn 2. Oil seal is leaking. 	<ol style="list-style-type: none"> 1. Replace to other model. 2. Replace.

6. Troubleshooting

6.1 Machine Troubleshooting

Item	Fault reason	Factor	Handling method
1	X-axis shakes	<ol style="list-style-type: none"> 1. Lack of oil. 2. Wrong oil applied. 3. Oil flow-rate. 4. Level error is too big. 5. Noise in operation. 	<ol style="list-style-type: none"> 1. Renew or supplement oil. 2. Use SHELL R68 guide-way oil. 3. Noise is shown; need to be replaced. 4. Re-adjust level. 5. Track lubrication is abnormal; check the lubrication system.
2	X-&Z-axis won't move	<ol style="list-style-type: none"> 1. Fuse is burnt. 2. AL trips. 3. Touch to the limit. 4. Operation fault. 5. Wire broken 6. Bearing is stuck. 7. Screw faults. 8. Motor is heated. 9. Motor won't run. 	<ol style="list-style-type: none"> 1. Replace. 2. Record the fault signal; contact related entity to handle it. 3. Be careful. 4. Contact related entity to handle it. 5. Check if related system/parts fault? 6. Replace. 7. Replace. 8. Check motor load, wire connectors and overload protection relay; clean up motor external surface. 9. Replace.
3	X-axis, Z-axis is not lubricated	<ol style="list-style-type: none"> 1. Fuse is burnt. 2. Thermo-timer trips. 3. Wire broken. 4. Electric Lubricator 5. Filter or Oil-hole outlet is stuck. 	<ol style="list-style-type: none"> 1. Replace. 2. Check if there is any other reason that causes the trip. 3. Contact the service personnel to handle it. 4. Replace. 5. Shutdown; clean the filter & oil-hole.
4	Spindle cannot run	<ol style="list-style-type: none"> 1. Fuse is burnt. 2. Thermo-timer trips. 3. Wire broken. 4. Motor malfunctions. 5. Spindle bearings fault. 	<ol style="list-style-type: none"> 1. Check if parts are disorder? 2. Check if parts are disorder? 3. Check if parts are disorder? 4. Contact the service entity to handle it. 5. Contact the service entity to handle it.
5	X-&Z-axis speed is abnormal	<ol style="list-style-type: none"> 1. Guide-way is not oil-lubed. 2. Motor malfunctions. 	<ol style="list-style-type: none"> 1. Timely add lube oil. 2. Contact the service entity to handle it.

6.2 Quick-Wear Part List

Quick-Wear Part List							Unit : mm
Place	Item	No.	Name	Specification	Material	Quantity	Remark
Base	1	SD03806542	Power lock	DL-SD-38	Purchase products	1	
	2	SD07011060	Power lock	DL-SD-70	Purchase products	1	
	3	WL30VSB005	Fixed-Side rectangular	BK20-C3-SYK	Purchase products	1	
	4	WL30VSB006	Fixed-Side rectangular	BF20-C3-SYK	Purchase products	1	
	5	WL30VST002	Soft Jaw		6061	3	
	6	B601407002F	Bearing	6014ZZ	Purchase products	1	
	7	BH30216080	Tapered roller bearings	30216	Purchase products	1	
	8	BH30215075	Tapered roller bearings	30215	Purchase products	1	
	9	LD30512005	V Belt	5PK 1300mm	Purchase products	3	
	10	YF07502098	Precision lodnuts	YSF - M75 x 2.0P	Purchase products	1	
	11	WL30VSB004	Ball screw	R25-05T4-FDI-C-695-790-0.018	Purchase products	1	
	12	WL30VSB007	Linear guideway	MSR30S2SSF1+R900-30/30-HII	Purchase products	2	
	13	WL30VSB012	Pulley	Ø90	S45C	1	
	14	WL30VSB018	Pulley	Ø180	S45C	1	
	15	WL30VSB025	Telescopic covers	Left	SPCC	1	
	16	WL30VSB026	Telescopic covers	Right	SPCC	1	
	17	EM210444101	Encoder	1024 P/R , DC 5V	Purchase products	1	
	18	SG24171921	Couplings	GS24/2.1/98A/78L/17-19	Purchase products	1	
Column	1	BD1102B014	Fixed-Side rectangular		FC25	1	
	2	D0028	Fixed-Side rectangular		Aluminium	1	
	3	YF02010038	Precision lodnuts	YSF - M20 x 1.0	Purchase products	1	
	4	BT02004715K	Bearing	20 TAC 47	Purchase products	2	
	5	B620402002N	Bearing	6204ZZ	Purchase products	1	
	6	WL30VSC002	Linear guideway	MSR25S2SSF1+R830-25/25-HIII	Purchase products	2	
	7	WL30VSC003	Ball screw	R25-05T4-FDI-C-645-753-0.018	Purchase products	1	
	8	WL30VSC006	Bellows covers		Purchase products	1	
	9	SG24171921	Couplings	GS24/2.1/98A/78L/17-19	Purchase products	1	

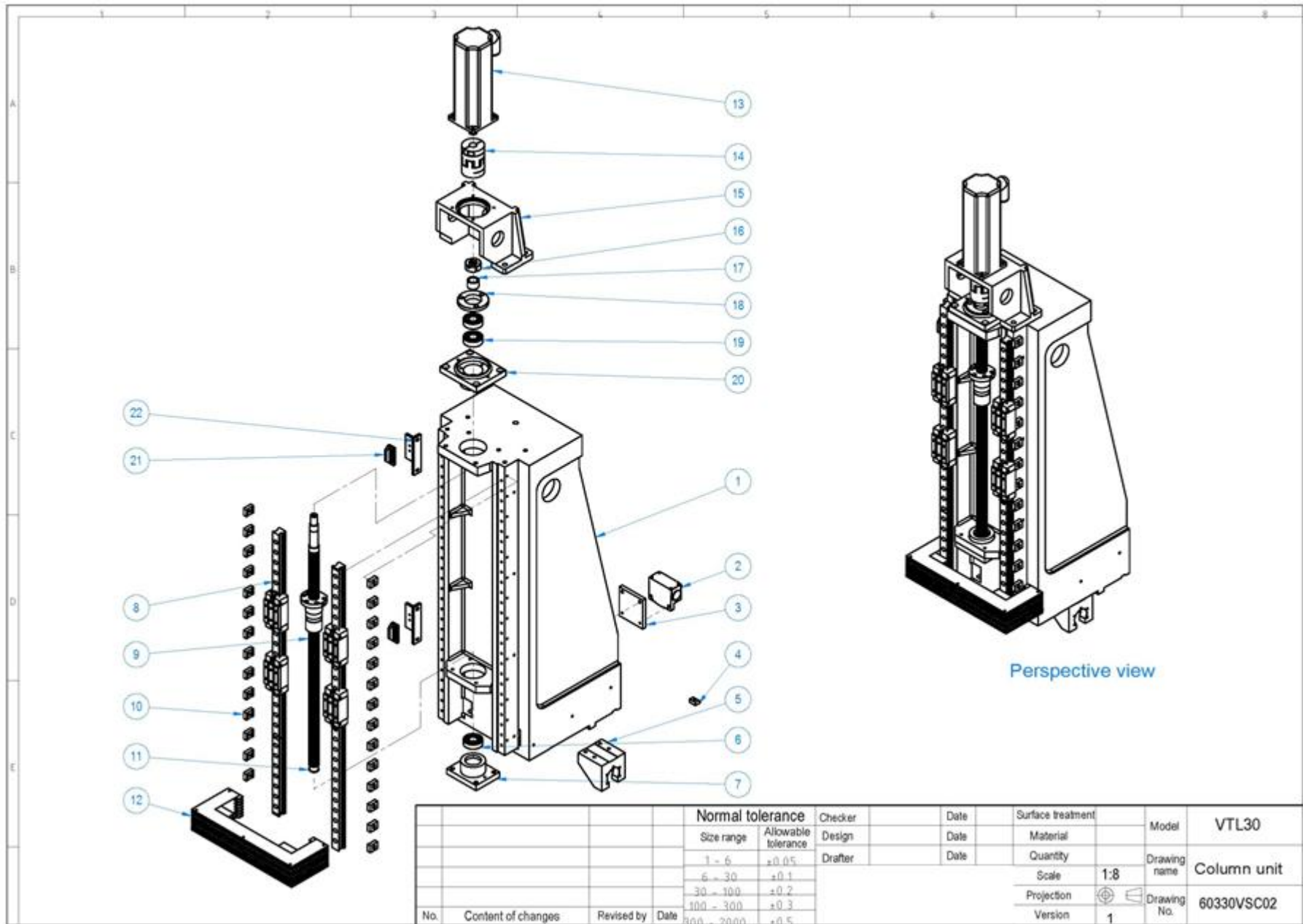
7. Machine Parts List

Perspective view

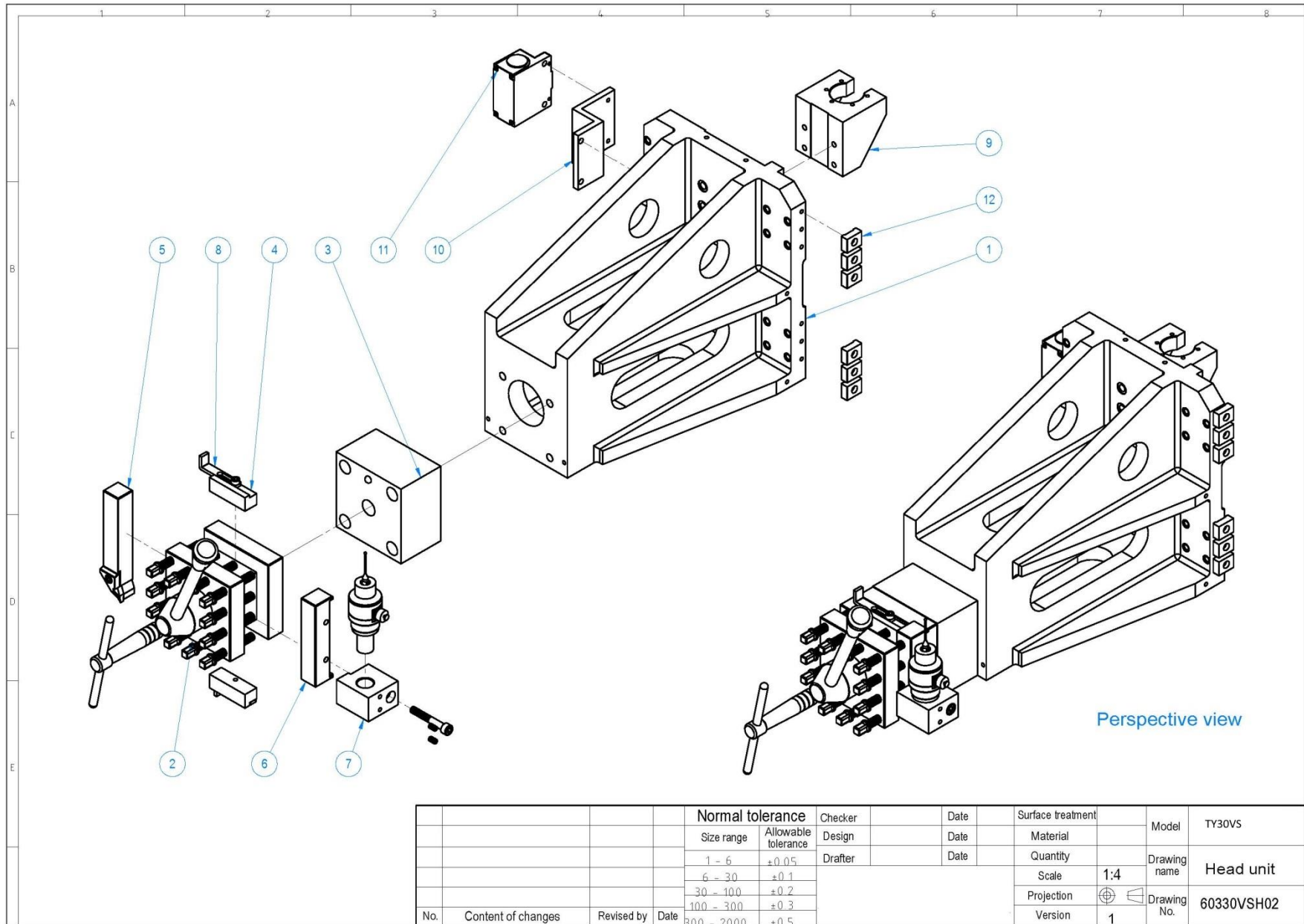
Normal tolerance		Checker		Date		Surface treatment		Model	
Size range	Allowable tolerance	Design	Drafter	Date	Date	Material	Quantity	Drawing name	WL
1 - 6	± 0.05							1-15	base unit
6 - 30	± 0.1							Projection	
30 - 100	± 0.2							Version	
100 - 1000	± 0.3							1	60330VSB03
1000 - 20000	± 0.5								
No.	Content of change	Revised by	Date						

No.	Drawing No.	Name	Specification	Material	Quantity
1	WL30VSB001A	Base		FC25	1
2	WL30VST002A	Soft Jaw		6061	3
3	WL30VST001	Chuck	SK-16	Purchase products	1
4	WL30VSB029	Chuck adapter plate		S45C	1
5	WL30VSB021	Spindle the front cover		SS41	1
6	WL30VSB022	Principal axis		S45C	1
7	M14	Hex socket cap screws	M14x50	Purchase products	9
8	M10	Hex socket cap screws	M10x40	Purchase products	2
9	BH30216080	Tapered roller bearings	30216	Purchase products	1
10	BH30215075	Tapered roller bearings	30215	Purchase products	1
11	YF04015058	Precision lodnuts	YSF	Purchase products	1
12	WL30VSB011	Motor adjustment plate		SS41	1
13	SV0850H022	Adjustment Pads		SS41	1
14	WL30VSB019	Headstock		FC25	1
15	WL30VSB024	Spindle cover plate		SS41	1
16	B601407002	Bearing	6014	Purchase products	1
17	WL30VSB020	Bearing gland		SS41	1
18	WL30VSB018	Pulley		S45C	1
19	WL30VSB012	Pulley		S45C	1
20	SD07011060	Power lock	DL-SD-70	Purchase products	1

No.	Drawing No.	Name	Specification	Material	Quantity
20	SD07011060	Power lock	DL-SD-70	Purchase products	1
21	SD03806542	Power lock	DL-SD-38	Purchase products	1
22	LD30512005	V Belt	5PK 1300mm	Purchase products	3
23	EM00210004	Induction Motor	10HP/4P	Purchase products	1
24	WL30VSB025	Telescopic covers		Purchase products	1
25	KT10505520	T1-oblique block		Purchase products	44
26	NC0020	Hit the block		Purchase products	2
27	WL30VSB006	Linear Guides support base	BF20	Purchase products	1
28	WL30VSEC006	Hit the block fixing plate		SS41	2
29	WL30VSB007	Linear guideway	MSR30	Purchase products	2
30	WL30VSB024	Drain oil fittings		SS41	2
31	WL30VSB004	Ball screw		Purchase products	1
32	WL30VSB005	Linear Guides support base	BK20	Purchase products	1
33	SG24171921	Couplings		Purchase products	1
34	WL30VSB023	Motor mount		SS41	1
35	AM8043	Servomotor		Purchase products	1
36	BD1102B902	Foundation Bolts		Purchase products	8



No.	Drawing No.	Name	Specification	Material	Quantity
1	WL30VSC001A	Column		FC25	1
2	Z841011	limit switch		Purchase products	1
3	WL30VSEC005	limit switch fixed plate		SS41	1
4	KT10505520	T1-oblique block		Purchase products	4
5	WL30VSC004	Nut seat		SS41	1
6	B620402002	TAC-Bearing		Purchase products	1
7	BD1102B014	Fixed-Side rectangular		FC25	1
8	WL30VSC002	Linear guideway	MSR25	Purchase products	2
9	WL30VSC003	Ball screw		Purchase products	1
10	XE00M05BE0	Briquetting		Purchase products	28
11	TB01020	C-type buckle		Purchase products	1
12	WL30VSC006	Bellow Covers		Purchase products	1
13	AM8043	Servomotor		Purchase products	1
14	SG24171921	Couplings		Purchase products	1
15	WL30VSC010	Motor mount		SS41	1
16	YF02015038	Precision Locknuts	YSF-M20X1.5	Purchase products	1
17	BD1101B006	Spacer ring		S45C	1
18	C0090	Bearing gland		Aluminum	1
19	BT02004715	TAC-Bearing	20TAC47	Purchase products	2
20	D0028	Fixed-Side rectangular		Aluminum	1
21	NC0020	Hit the block		Purchase products	2
22	WL30VSEC006	Hit the block fixing plate		SS41	2



No.	Drawing No.	Name	Material	Quantity
1	WL30VSH001	Z-axis slide	SS41	1
2	WL30VSH002	Quartet turret	Purchase products	1
3	WL30VSH003A	Turret seat	SS41	1
4	WL30VSH013	Tool mounting block	SS41	2
5	WL30VSH014	Cutters	Purchase products	1
6	WL30VSH018	Probe handle	SS41	1
7	WL30VSH021	Probe socket	SS41	1
8	WL30VSH023	Tool positioning sheet metal	SS41	2
9	WL30VSC004	Nut seat	SS41	1
10	WL30VSEC005	Z-axis limit switch fixed plate	SS41	1
11	Z841011	limit switch	Purchase products	1
12	XE00M05BE0	Briquetting	Purchase products	6