



# CNC

MACHINERY SALES AUSTRALIA

## BTA DEEP HOLE DRILLING MACHINE



● ● ● **ELA/ELB**  
**S e r i e s**



規格表 SPECIFICATIONS

項目 ITEM	機型 MODEL	單位 UNIT	ELA	ELB
鑽孔孔徑	Hole dia.	mm	φ30~φ150	φ30~φ200
最長鑽孔深度	Max. depth	mm	2000/3000/4000	2000/3000/4000/5000/6000 7000/8000/9000/10000/11000
最大加工外徑	Max. turning dia.	mm	φ400	φ610
床面寬度(方軌)	Width of bed (square track)	mm	570	800
主軸鼻端/孔徑	Spindle nose/Spindle bore	mm	A2-8/φ81	A2-11/φ83
床面旋徑	Swing over bed	mm	860	1160
主軸轉速	Spindle speed	rpm	100-1100(2段/2-step)	48-1086rpm(4段/4-step)
主軸馬達(工件)	Spindle motor(workpiece)	HP	100	100/125(選配opt.)
Z1軸馬達(減速比1:10)	Z1 axismotor (Reduction ratio 1:10)	kw	4	9
Z2軸馬達	Z2 axis motor	HP	-	3(減速馬達reduce motor)+變頻器(inverter)
Z1軸進給速度	Z1 axis traverse speed	mm/min	1-200	1-200
Z1軸快速移動	Z1 axis rapid feed	mm/min	3000	3000
Z1軸滾珠導螺桿	Z1 axis ball screw	mm	φ80xP=10/φ100xP=10(選配opt.)	φ80xP=10
Z2軸導螺桿	Z2 axis lead screw	mm	-	φ80xP=10
高壓泵浦	High pressure pumps	ℓ/min	400~750/25	400~1000
		kgs/cm <sup>2</sup>	25	25
泵浦輸出	Pump output	ℓ/min	750	1000
油壓馬達(含變頻器)	Hyd. Motor/Inverter	HP	15+15	15+15+15
切削油桶	Coolant tank	ℓ	4000	5000
控制器	Controller		FANUC	FANUC

標準附件

- 發那科0i-T電腦控制器
- 工件主軸頭可移動式(Z2軸)適用ELB機型
- 高、低壓切削油泵
- 自動潤滑系統
- 16"三爪強力型夾頭
- 試車用鑽孔導套及相關附件(單一尺寸)
- 紙帶過濾機
- 鐵屑輸送機
- 切削油冷機
- 工具箱及調整工具

特別附件

- 刀具迴轉主軸頭(適用ELB機型)
- 含迴轉式扶件座
- 滾筒式扶件座
- 刀桿、鑽頭
- 四爪夾頭
- 壓力頭部加裝夾頭
- CE/CSA配電
- 鐵屑脫油機

STANDARD ACCESSORIES

- FANUC 0i-T controller
- Movable workpiece headstock (Z2 axis) for ELB
- High & low pressure coolant pump
- Automatic lubricator
- 16" 3-jaw strong-type scroll chuck
- Guide bush for deep hole drilling (P.H)
- Paper filter unit
- Chip conveyor
- Coolant cooler
- Tools and tool box

OPTIONAL ACCESSORIES

- Tool rotating headstock with rotatable type workpiece supporter (for ELB)
- Roller type workpiece supporter
- Boring head & drill tube
- 4-jaw chuck
- Pressure head with chuck
- CE/CSA approval specification
- Chip Oil-Extractor

ELA-2000 工件旋轉+刀具不旋轉

**Workpiece Rotation + Tool no Rotation**



ELA-3000 工件旋轉+刀具不旋轉

**Workpiece Rotation + Tool no Rotation**





# ELB-6000



## Suitable Use the Following Size of Drill Head



Single insert solid drill head

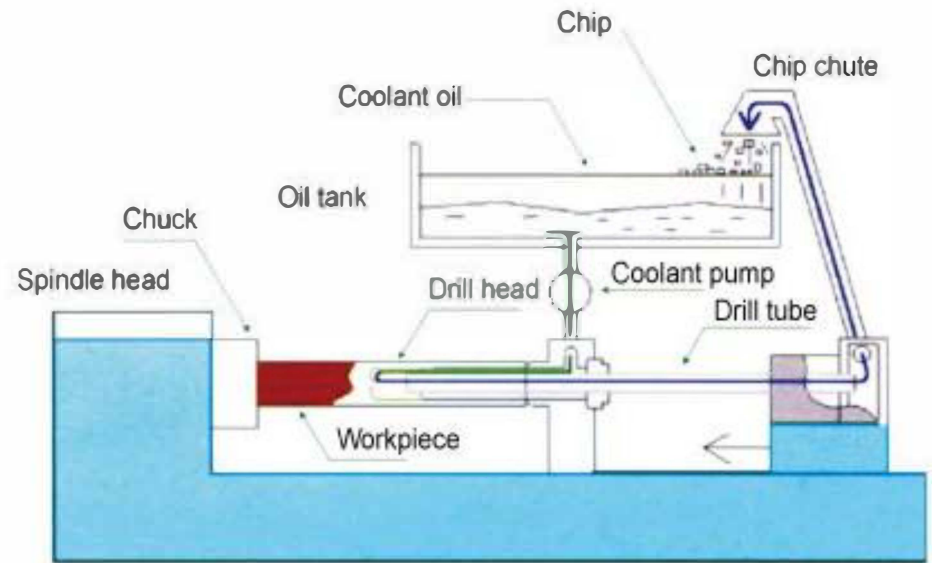
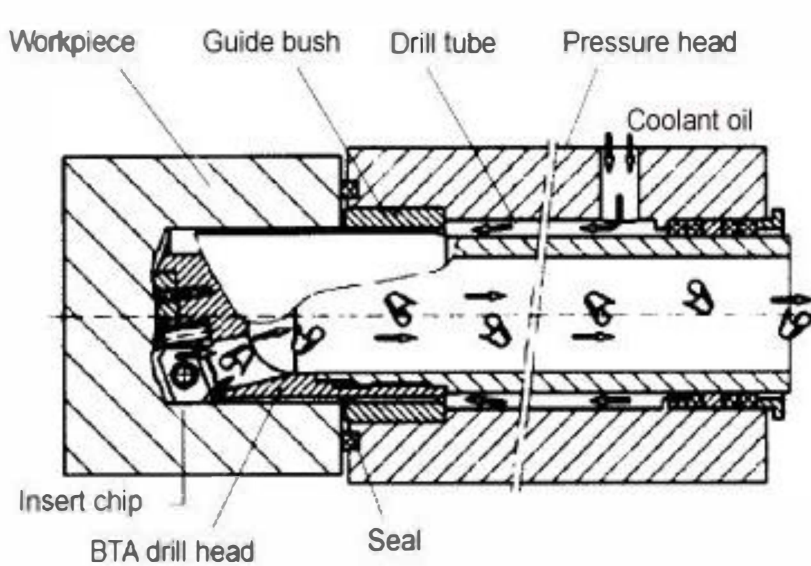
3-pcs insert solid drill head

3-pcs insert solid drill head

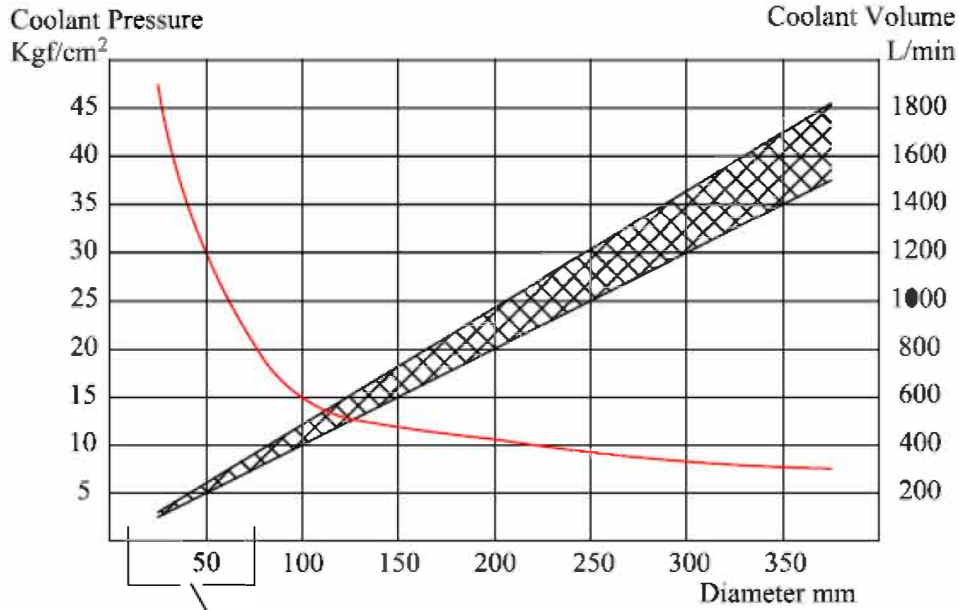
Trepanning head

Trepanning head

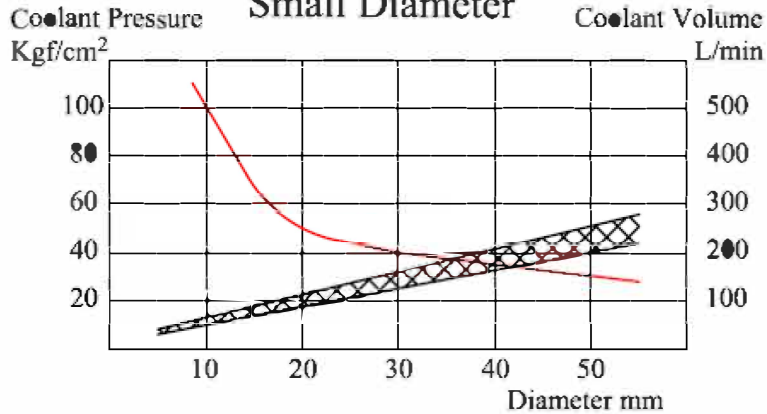
## Application of BTA Deep Hole Drilling



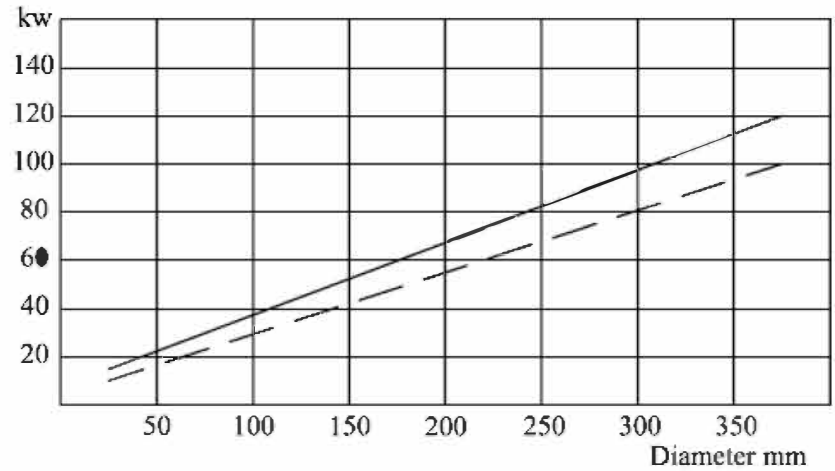
XXXXXX Coolant Volume L/min  
 ————— Coolant Pressure Kgf/cm<sup>2</sup>



Small Diameter

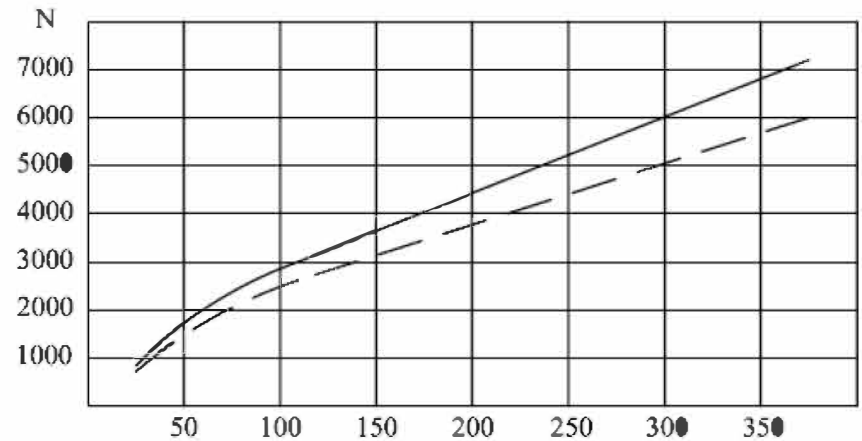


Horse Power

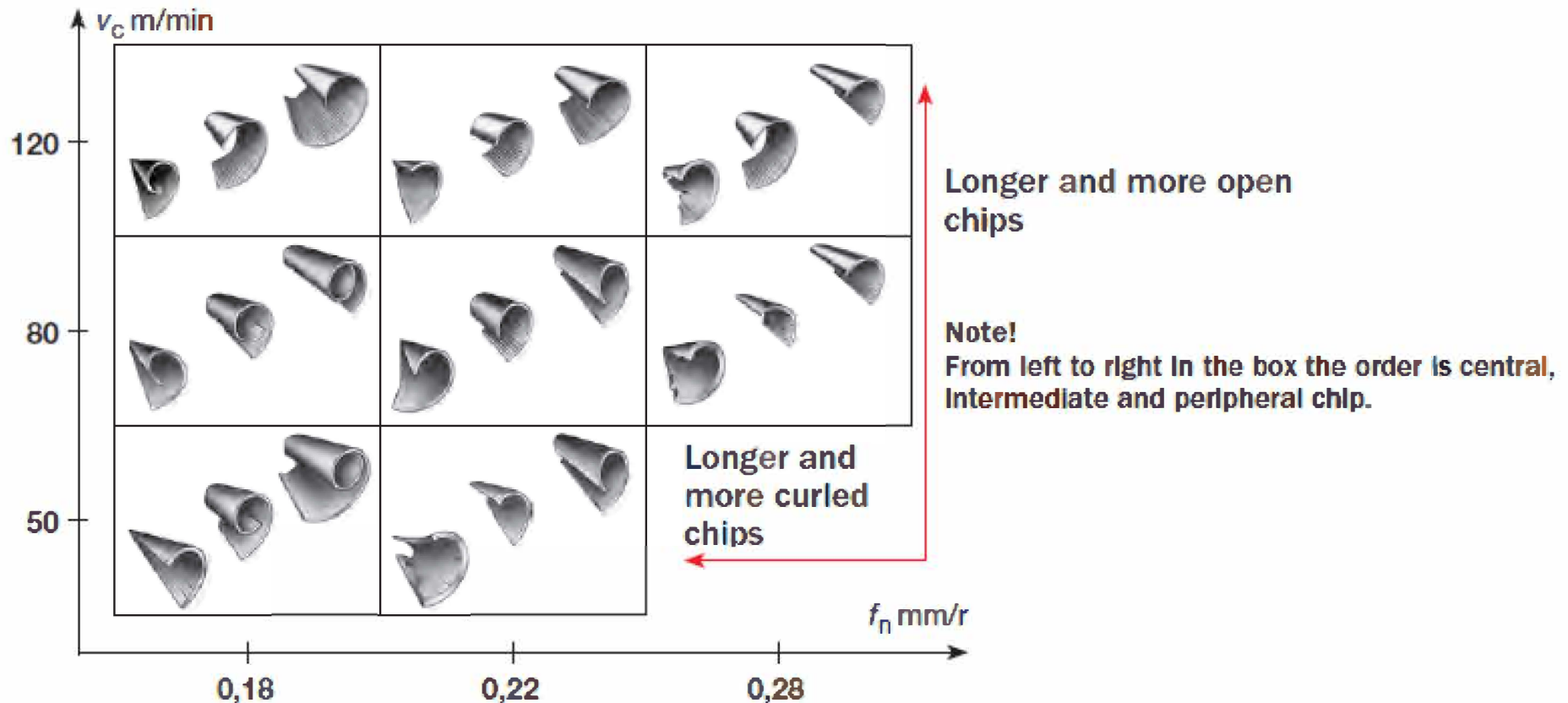


————— Alloy Steel(HB300) V=100M, f=0.25mm  
 - - - Carbon Steel(HB200) V=100M, f=0.25mm

Thrust Force



## Chip breaking influenced by speed and feed



Chipbreaking is affected by cutting speed and feed. The chipbreaking range for a drilling tool is illustrated in the picture above. The tool is test-run in the same work material but with different combinations of cutting speed and feed. Once a number of values have been run, the different chip forms obtained are studied. The portion of the diagram where satisfactory chip forms are obtained constitutes the chipbreaking range for the drill and material in question.

Shorter chips are obtained by increasing the feed and/or reducing the cutting speed. The most economical alternative is chosen from among the possible cutting data combinations.



# Factory 1





# Factory 2

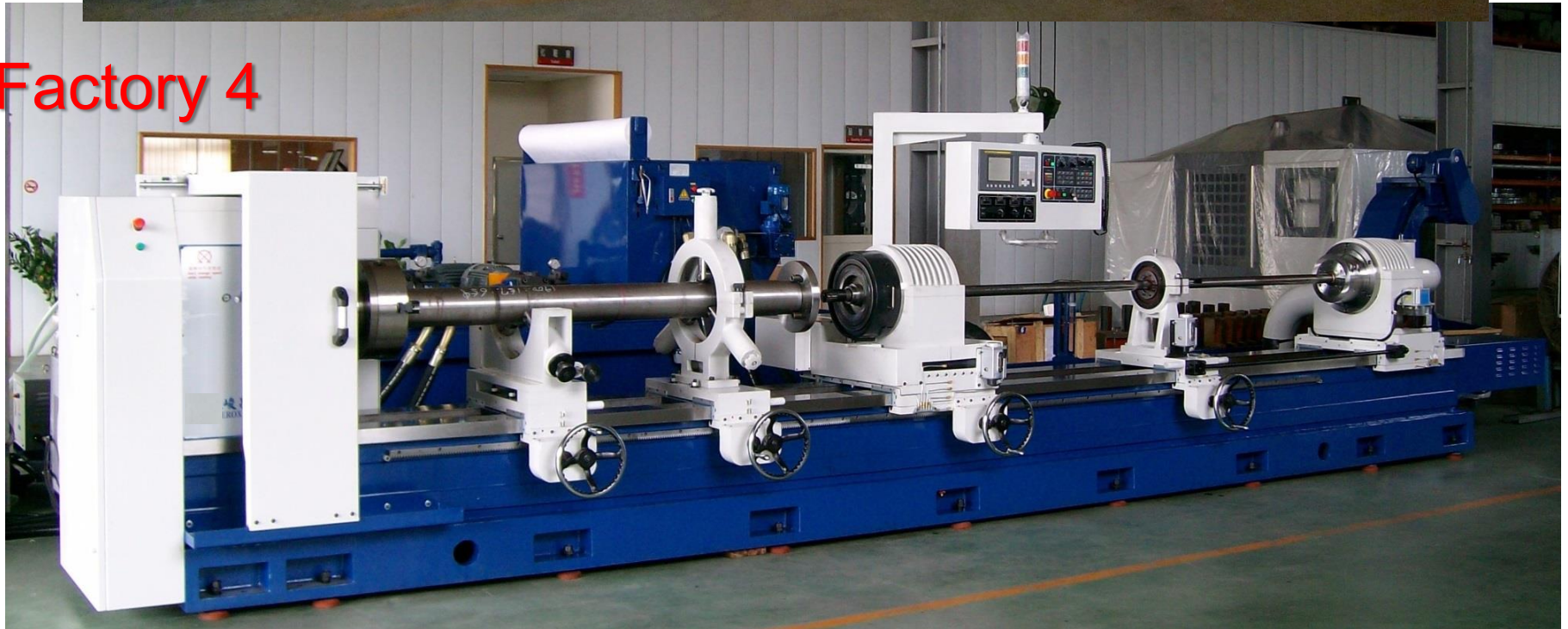




Factory 3



Factory 4





# Factory 5

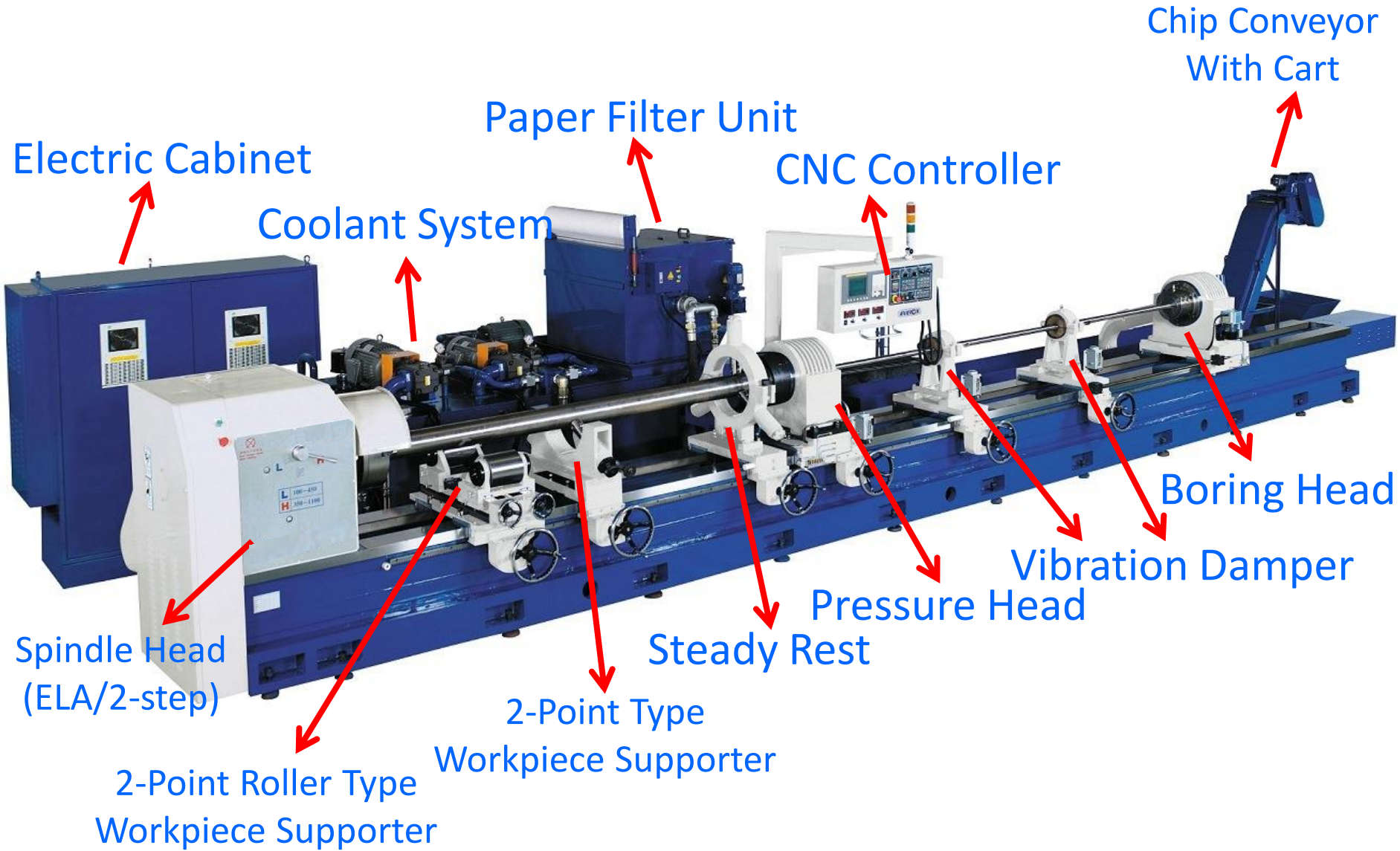




# Factory 6



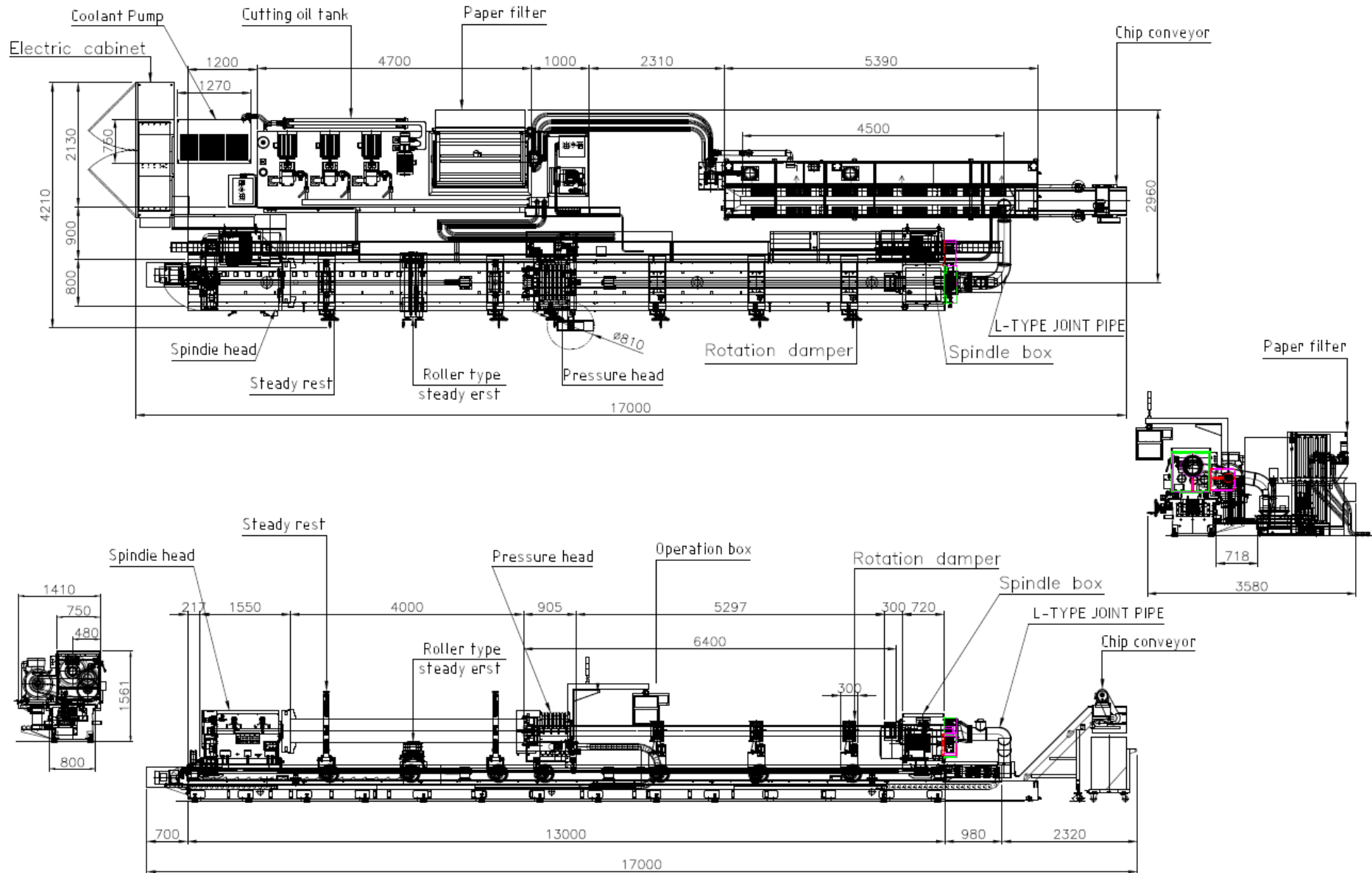
# Machine Accessories Arrangement







# Drawing For Model ELB-4000



# MACHINE ACCESSORIES

## Electric Cabinet



## CNC Controller



# MACHINE ACCESSORIES

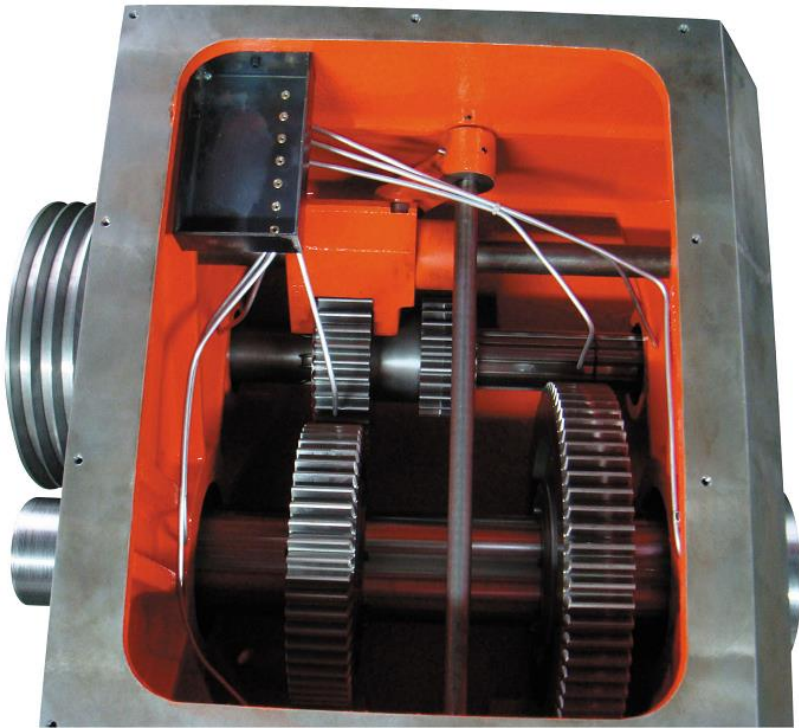
## Control Panel For Cooling System



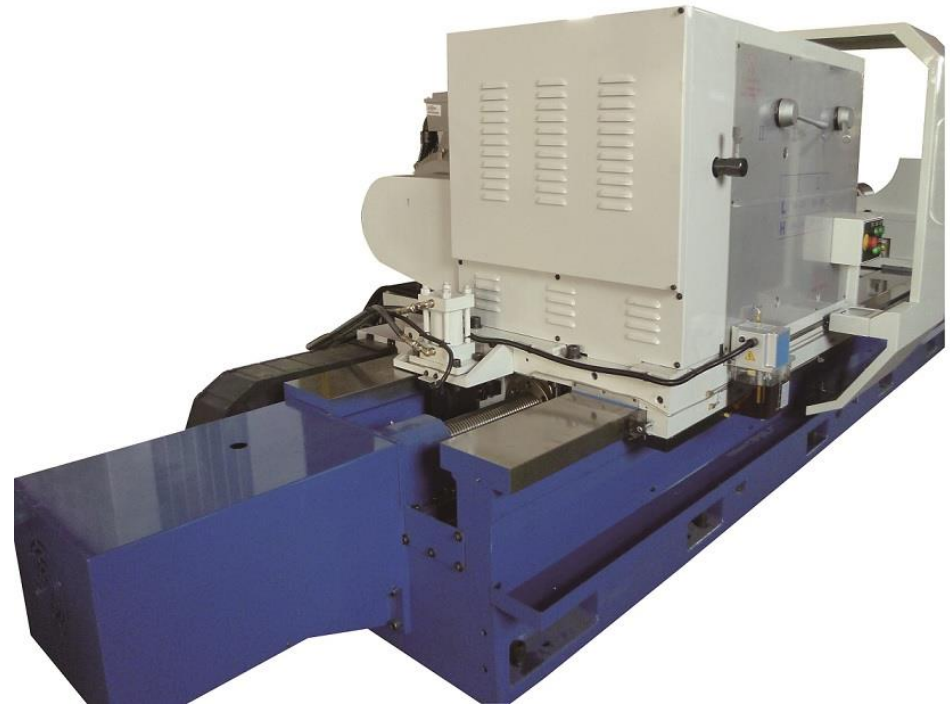


# MACHINE ACCESSORIES

**Spindle Head  
(ELA/2-step)**



**Movable Workpiece  
Headstock (For ELB)**

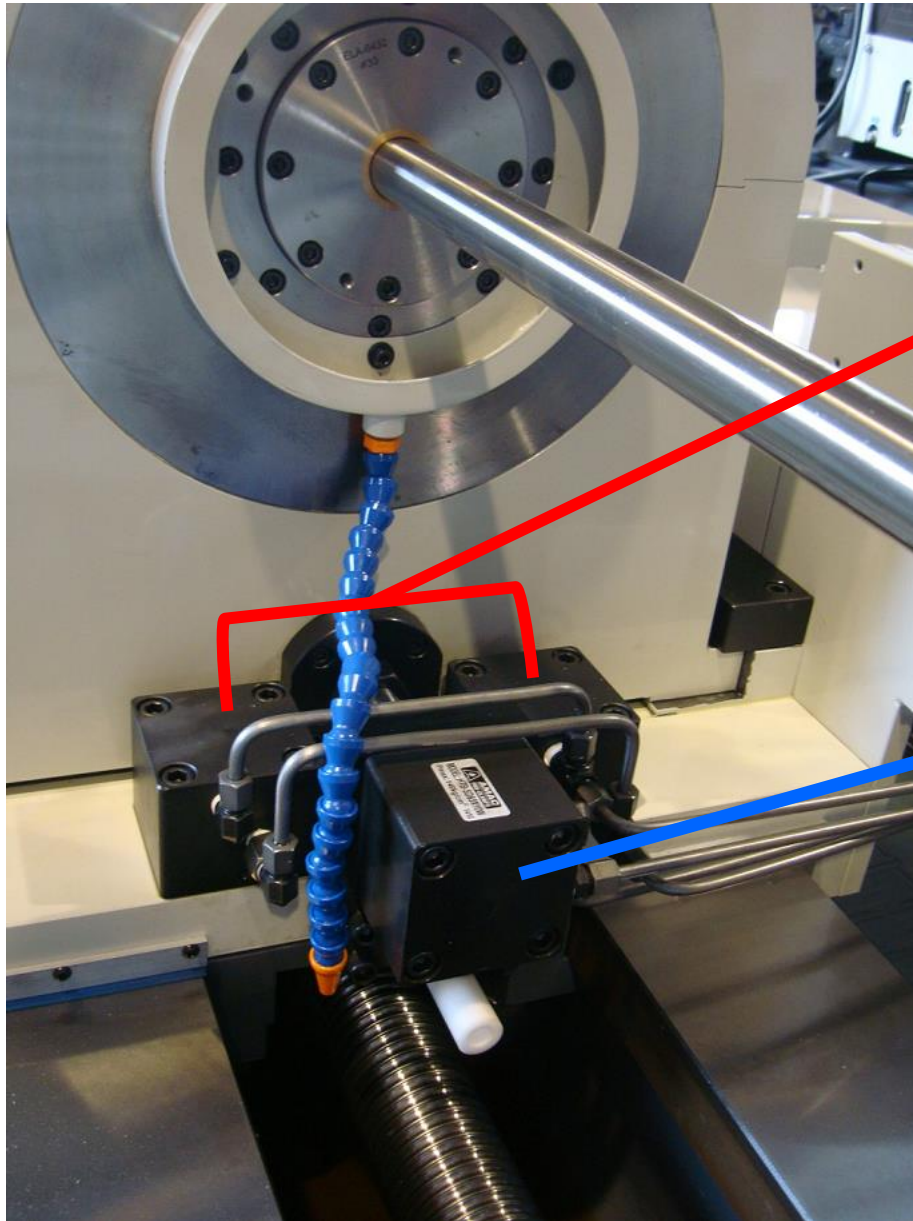


# MACHINE ACCESSORIES



**Pressure Head  
(Driving Direction  
By Electric Motor)**

# MACHINE ACCESSORIES

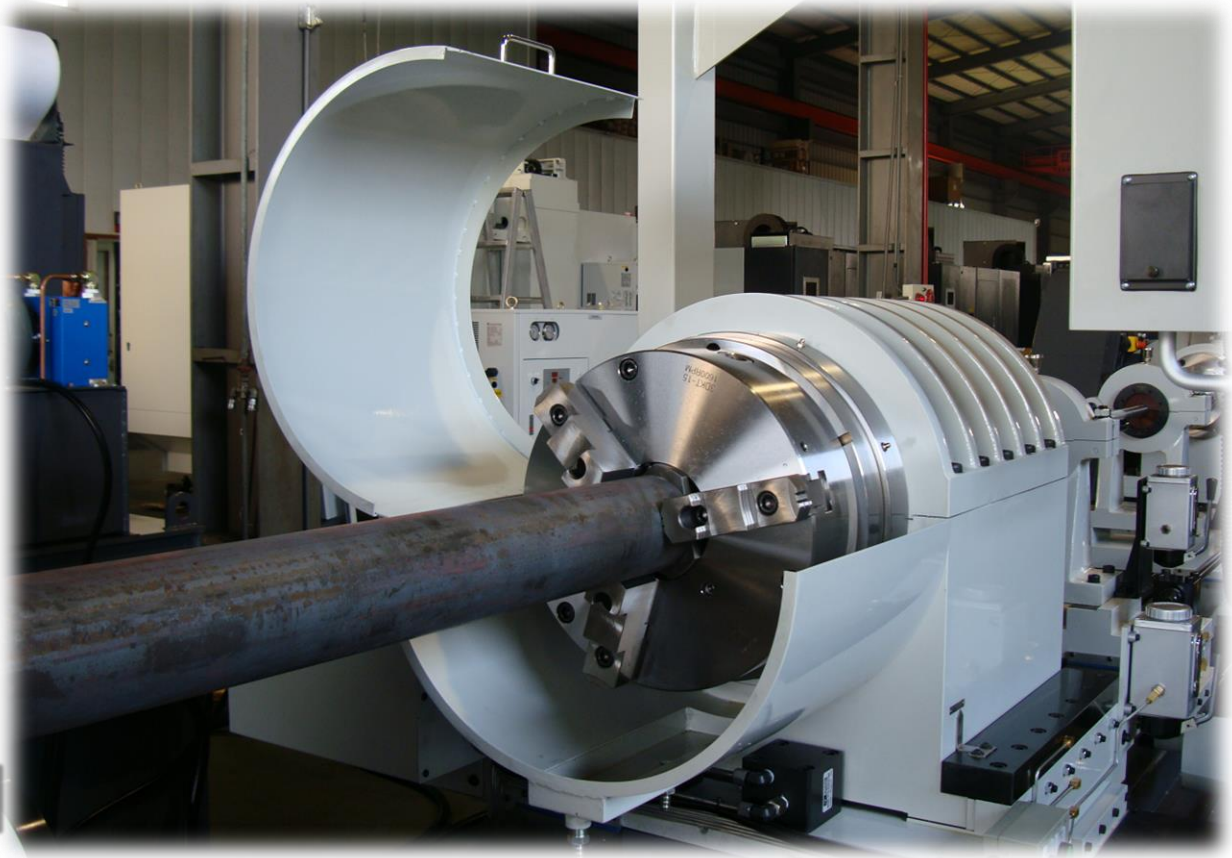


**Hydraulic Clamping**

**Front And Back  
Loosening Prevention**



# MACHINE ACCESSORIES



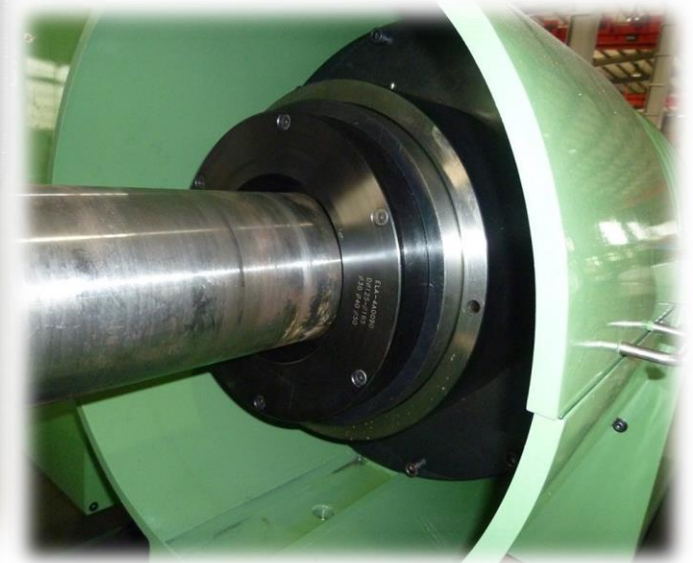
**Pressure Head**

**(Adding 3-Jaw chuck to clamp the workpiece)**

# MACHINE ACCESSORIES



**Pressure Head  
(Clamping by taper)**





# MACHINE ACCESSORIES

## Vibration Damper

Tool No Rotation



Tool Rotation





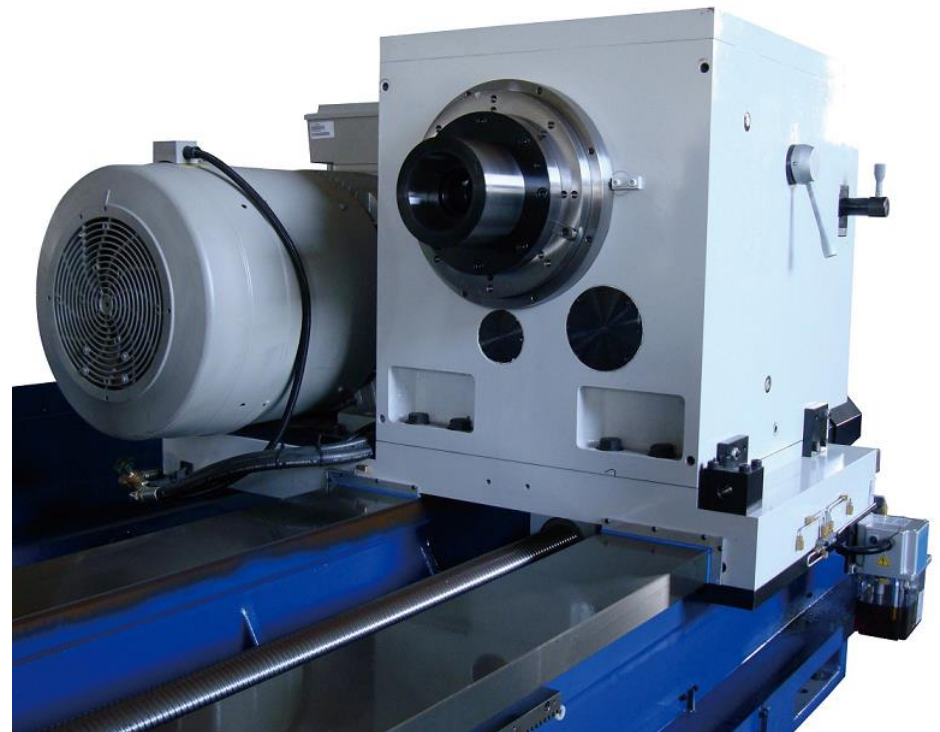
# MACHINE ACCESSORIES

## Boring Head

Tool No Rotation

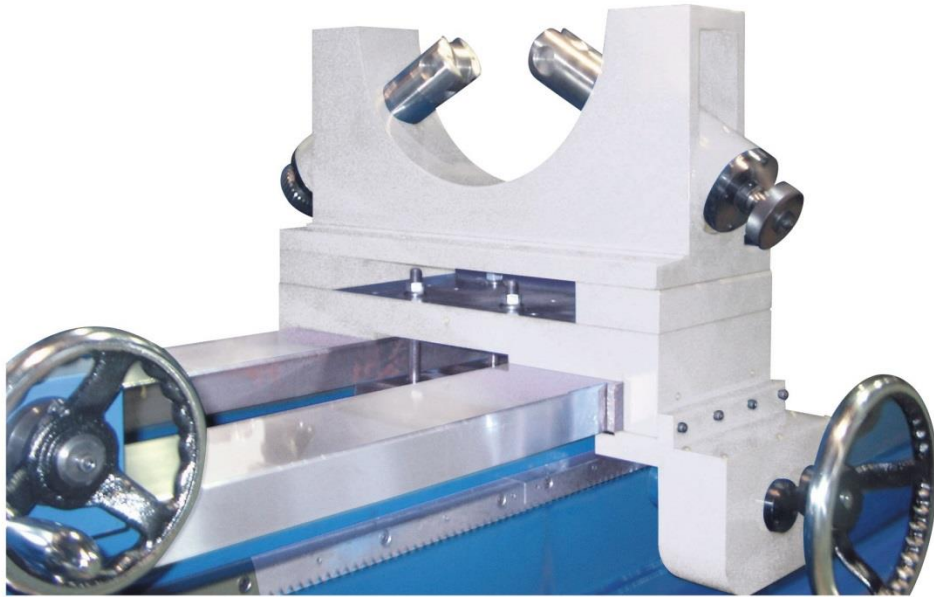


Tool Rotation



# MACHINE ACCESSORIES

**2-Point Type  
Workpiece Supporter**

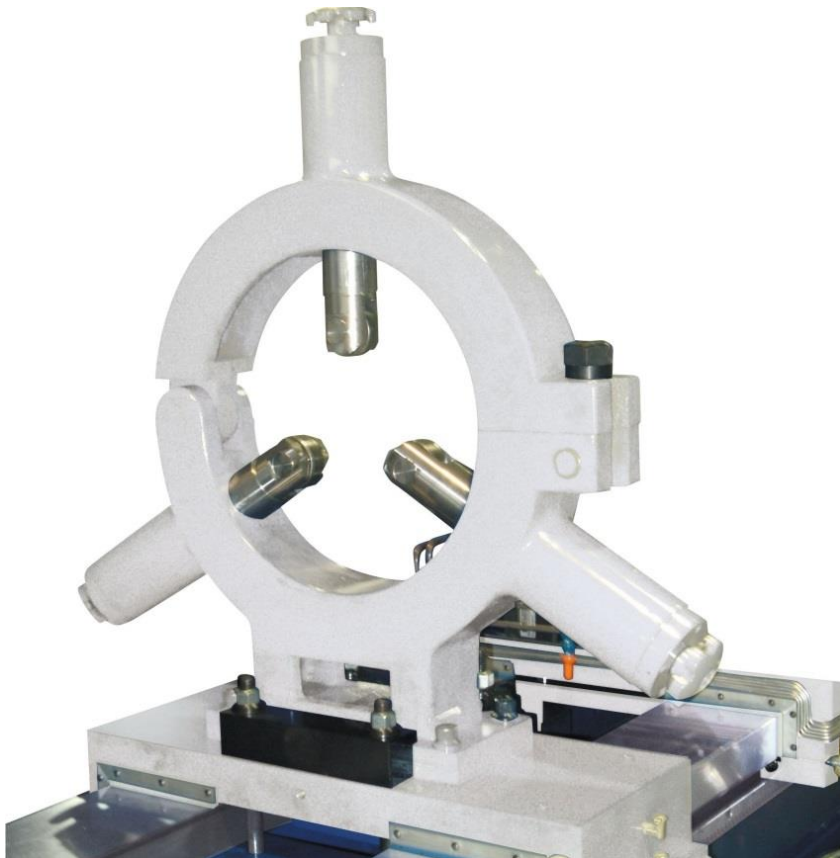


**2-Point Roller Type  
Workpiece Supporter**

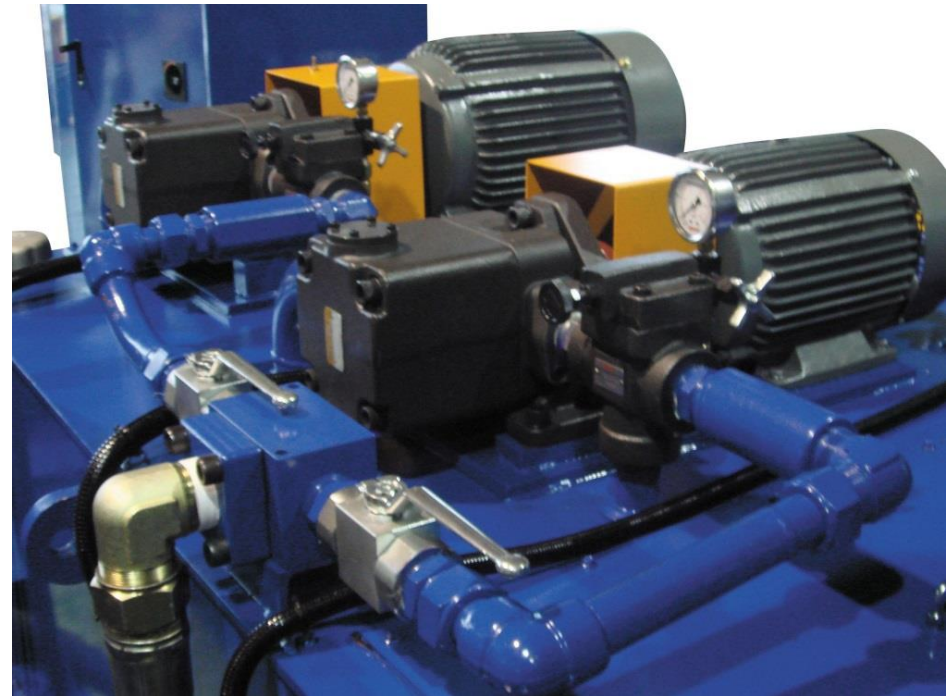


# MACHINE ACCESSORIES

## Steady Rest



## Coolant System





# MACHINE ACCESSORIES

## Paper Filter Unit



## Chip Conveyor With Cart



# MACHINE ACCESSORIES

**Chip Oil-Extractor**



**Chip**





# MACHINE ACCESSORIES

## Oil Cooler For Oil Tank



## Spindle Oil Cooler





# MACHINE ACCESSORIES

## Documents





# HANGING





# FOUNDATION





# PACKING FOR SHIPMENT





# PACKING FOR SHIPMENT

