AL. WHEEL
CUTTING SOLUTION

Promise for Safe & Comfortable Driving

Hyundai WIA has grown into a core affiliate of the Hyundai Motor Group and has the world-class level of aluminum wheel machining lineup for comfortable and safe driving of customers. Also we have made a great contribution to improving the performance of finished vehicle with excellent efficiency and quality.

Choosing an aluminum wheel processing machine of Hyundai WIA...

It is a promise of Hyundai WIA machine tool to guarantee the customer's safe and comfortable driving.


HYUNDAI
TRAGO
XCIENT
25.5t

AL. WHEEL
CUTTING SOLUTION

AL. Wheel Cutting Solution Line-up

KL6500AW

19″ inch
Recommended Wheel

Max. Turning Dia : **Ø660** mm (26″)

LV800AW-TT

19″ inch
Recommended Wheel

Max. Turning Dia : **Ø650** mm (25.6″)

LV800RAW

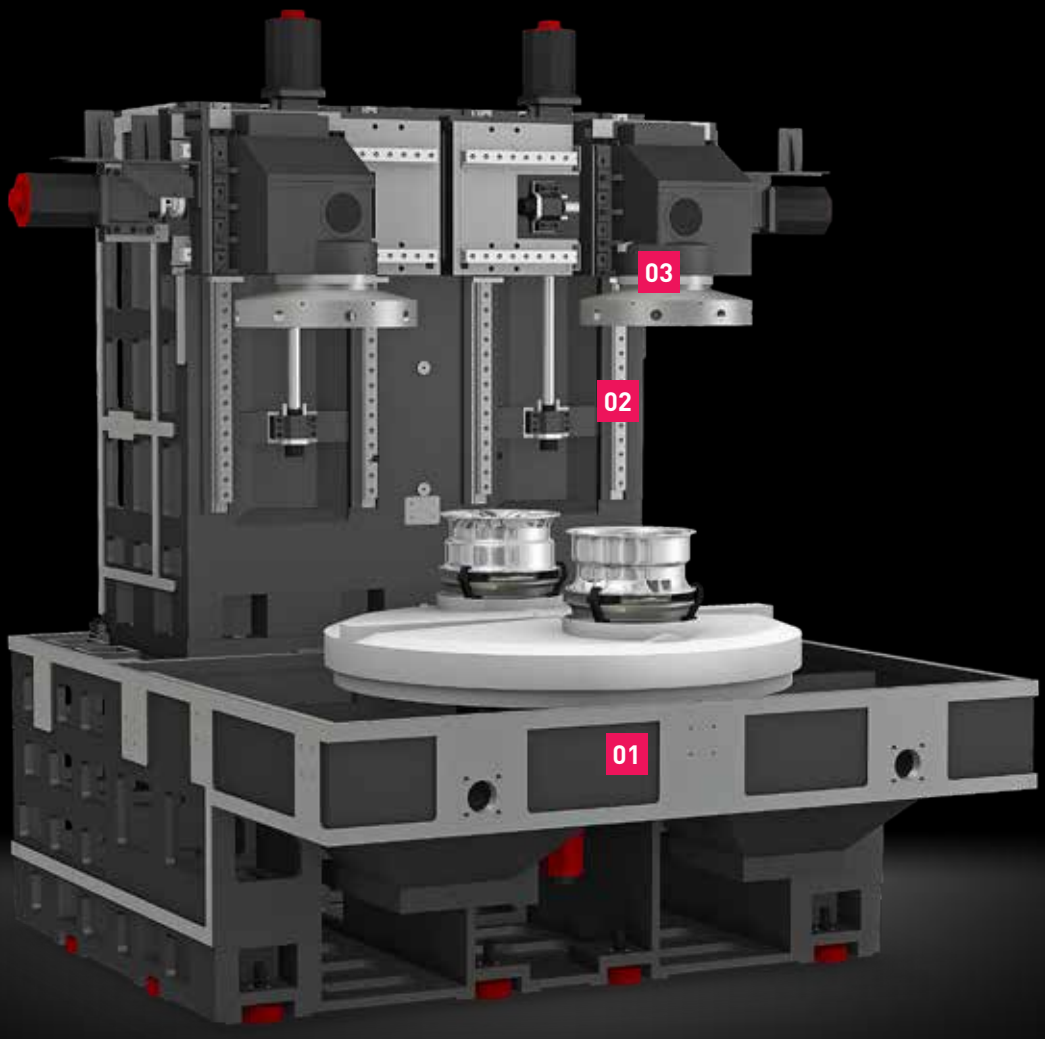
22.5″ inch
Recommended Wheel

Max. Turning Dia : **Ø800** mm (31.5″)

01
L-AW Series

LV800AW-TT

Powerful Cutting Capability, AL Wheel Cutting
2 Turret CNC Vertical Turning Center



Reduction of Non-cutting Time by Fast Rapid Speed

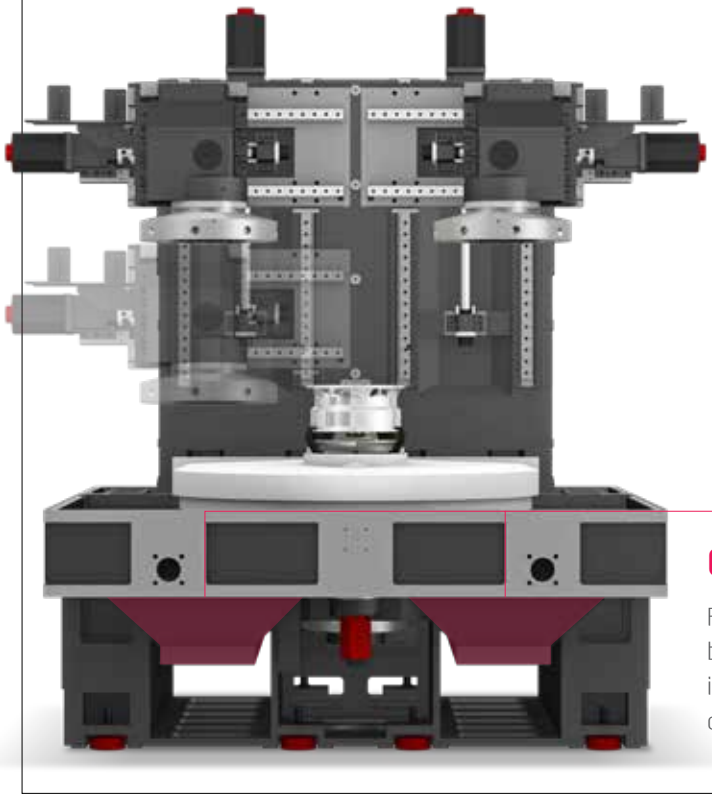
19 inch
Recommended Wheel

420/650 (16.5/25.6) **mm** (inch)
Travel (X/Z)

30/30 (1,181/1,181) **m/min** (ipm)
Rapid Traverse Rate (X/Z axis)

Basic Features

01



Chip Disposal

For smooth chip disposal, the size of chip outlet on the bed is enlarged to 350mm(13.8″) by 856mm(33.7″) and installed with the steep angle of 45 degrees so that it can easily handle a large amount of chips.

02

Roller Type LM Guideway

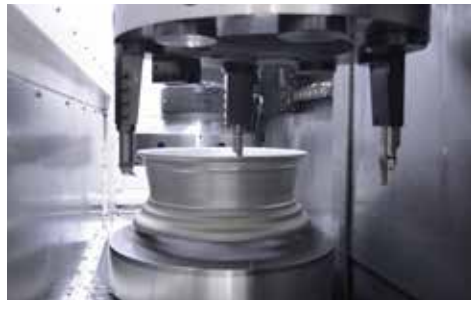
The LV800AW-TT is equipped with Roller Type LM Guide to satisfy both rigidity and fast feed speed.

In particular, we will increase productivity by achieving the best rapid traverse speed of 30m/min (1,181 ipm) for each axis.

03 VDI 2 Turret

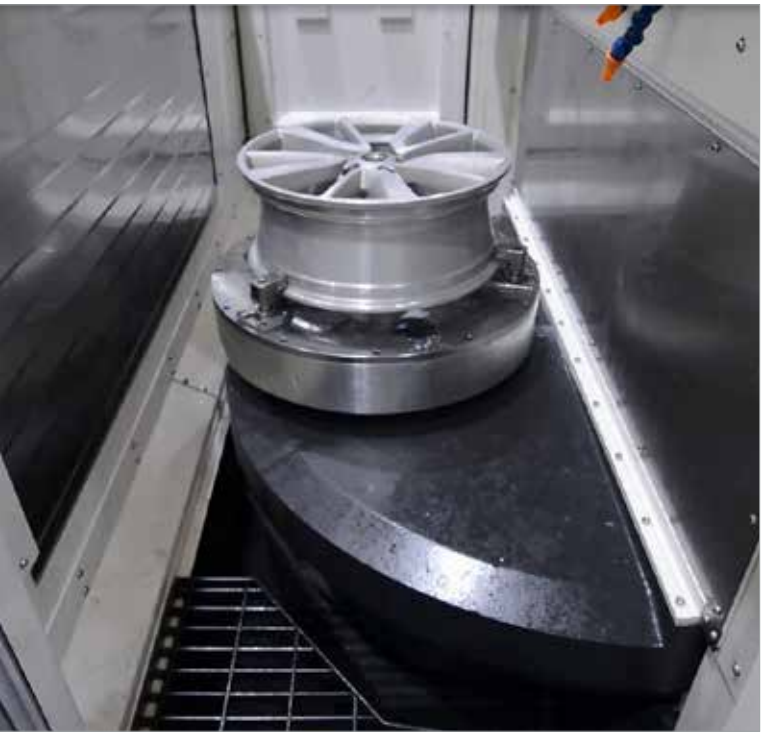
It is designed with 2 turret structure, it is possible to process the inner and outer diameters of the wheel at the same time. Furthermore, It is possible to exchange the tool easily by applying VDI Turret.

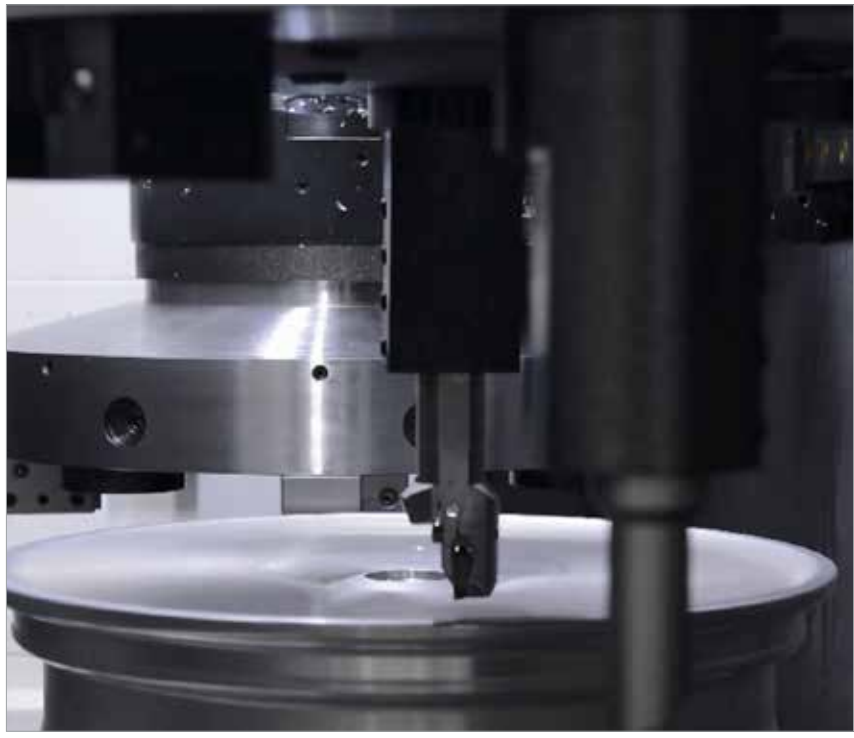
- **Tool Size** (OD/ID) : □ 25/Ø40 mm
- **Turret Type** : VDI50 (8 station 2 Turret)



High-Precision Spindle

Long Lasting High Accuracy & Excellent Performance
Vertical Turning Center





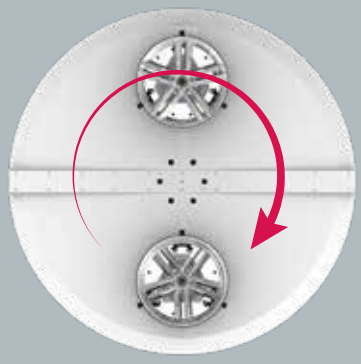
Exceptional performance for high precision machining Built-in Spindle

The built-in spindle of the LV800AW-TT minimizes vibration and heat generation during machining and provides fast acceleration and deceleration to produce the best products.

ACC (Automatic Chuck Changer)

It is possible to process the front and back of the wheel in one machine by applying the automatic chuck exchange device which can rotate the 180 degree index at high speed.

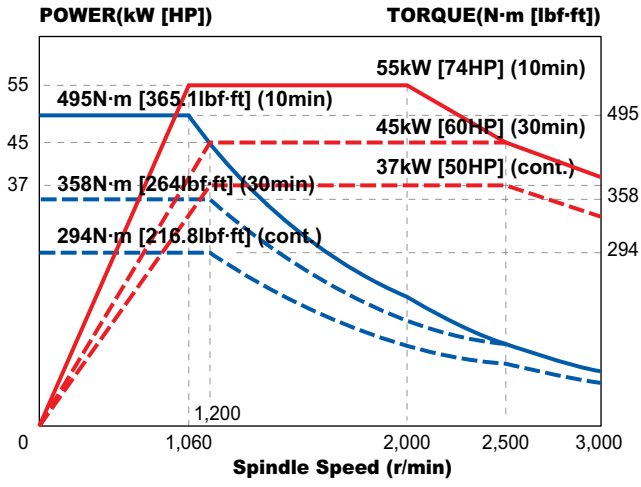
In particular, the alarm factor of the electric device (sensor) is minimized by the ACC design of the servo motor driving method.



Special Chuck OPTION

Finger chuck dedicated to aluminum wheel processing offers stable machining even at fast binding and high-speed rotation. This special chuck is designed to be processed quickly and accurately.

3,000rpm Built-in



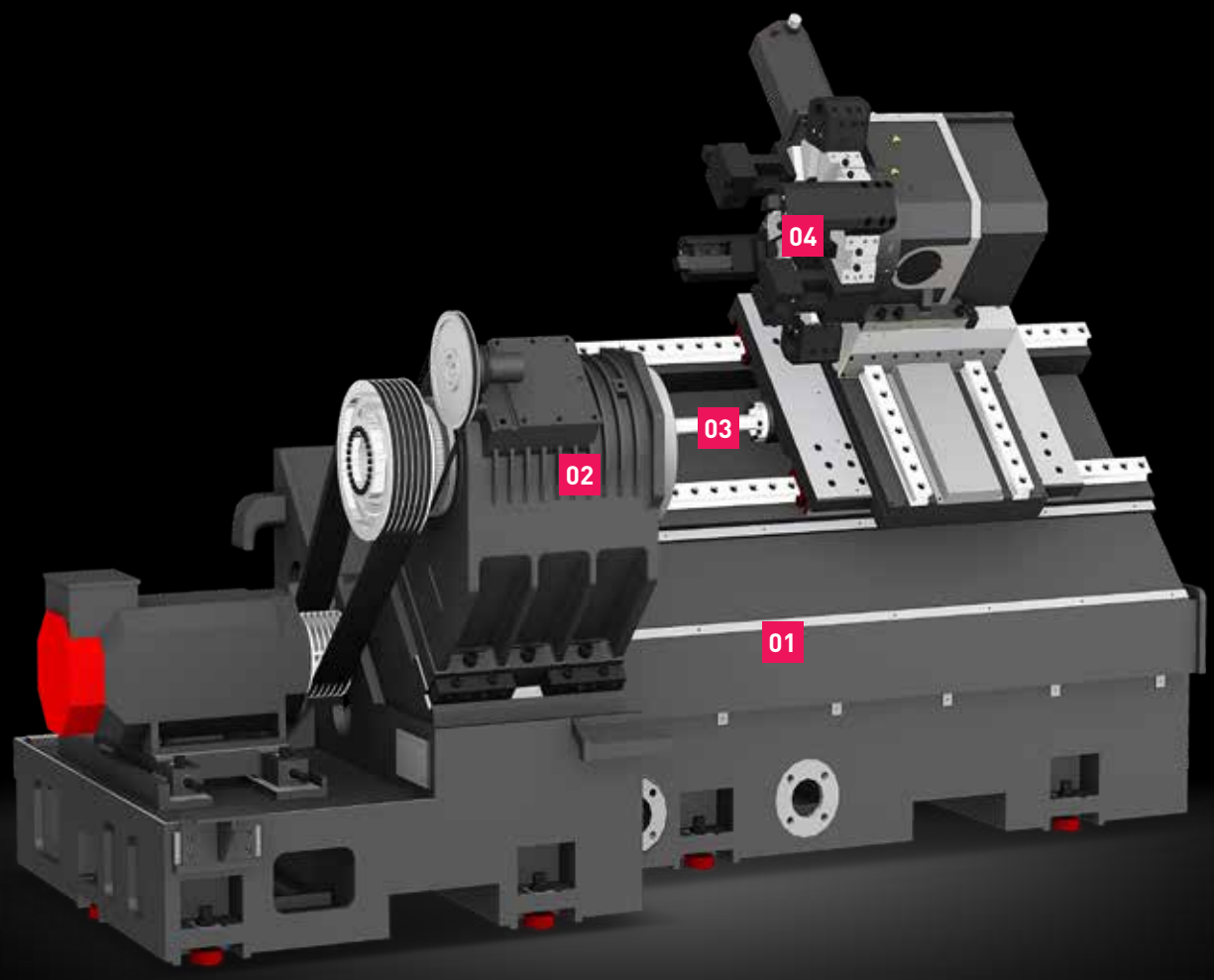
3,000 rpm

55 kW	495 N·m
Max. Output	Max. Torque
(74 HP)	(365.1 lbf.ft)

02
L-AW Series

KL6500AW

The Best Productivity Popular
Wheel CNC Turning Center



AL. Wheel Turning Center for Heavy Duty Cutting

19 inch
Recommended Wheel

400/720 (15.7/28.3) **mm** (inch)
Travel (X/Z)

20/24 (787/945) **m/min** (ipm)
Rapid Traverse Rate (X/Z axis)

Basic Features

01 Stable Bed Design

The KL6500AW minimizes vibration caused by machining with the ptimal weight of bed design through the FEM.(Finite Element Method)

- **3.5 ton weight bed for vibration control**
- **Machine Weight : 7.8 ton** (17,196 lb)

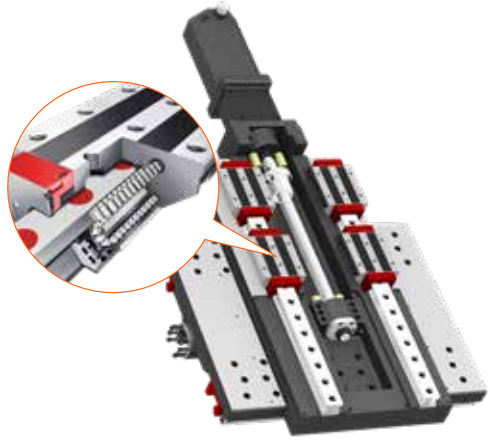
02 Main Spindle

The main spindle has become sturdier by enlarging the diameter and thickness. Rigidity and accuracy are maintained by adoption of high precision angular ball bearing.

03 Wide Width Roller Type LM Guideway

All axes of the KL6500AW adopted Roller type LM Guide with excellent feed rate to improve productivity.

In order to increase the rigidity, wide width of Roller type LM Guide is applied to show sufficient rigidity even for heavy-duty cutting.



Ball Screw

Travel is stabilized by fastening both ends of the ball screw, the double anchored method. In particular, a large diameter ball screw with proper preload reinforces ridigity and resistance to thermal displacement.

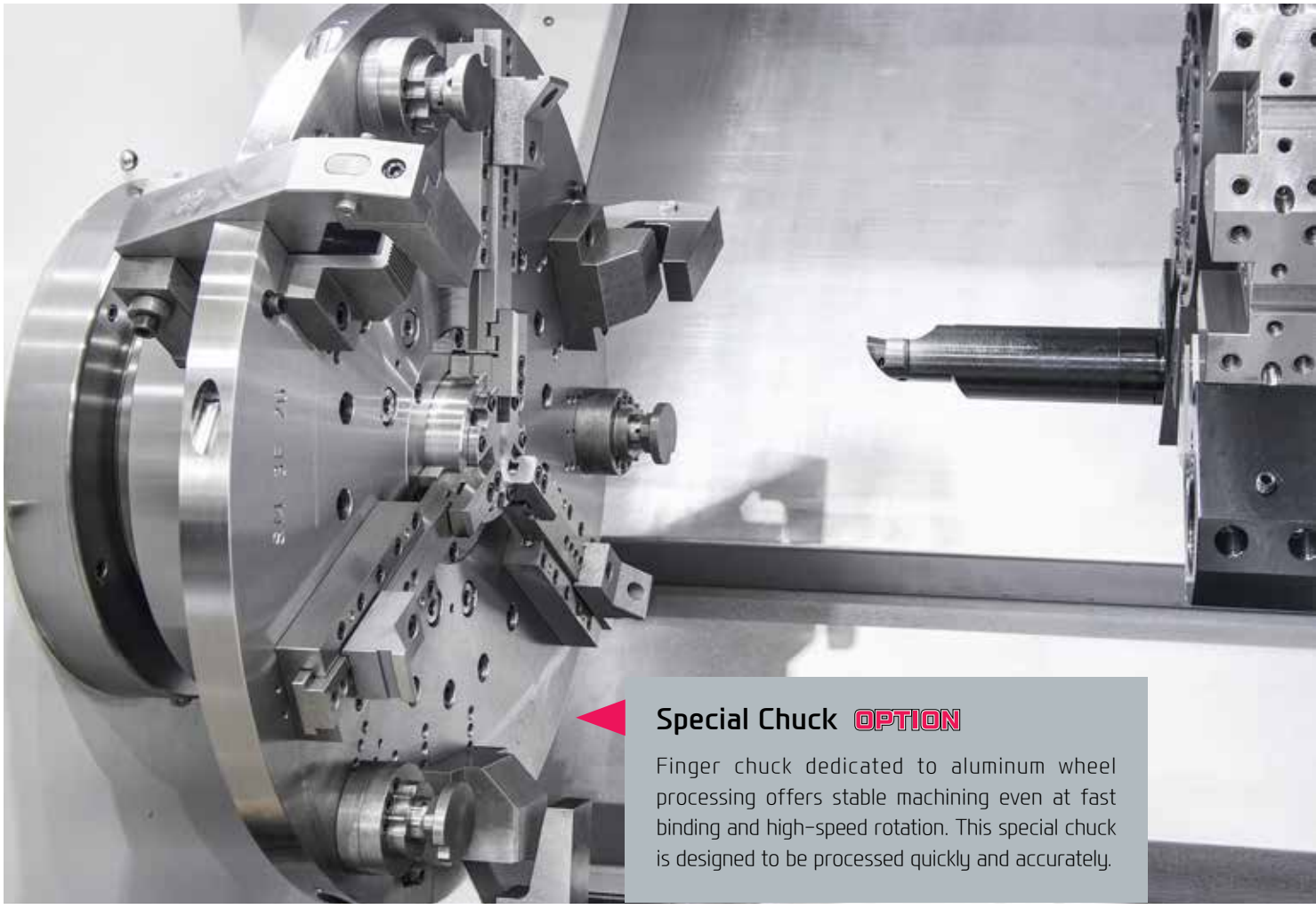
04 Turret

The turret (BMT65 class) optimized for medium and large aluminum wheel machining is adopted and the stability of machining is improved by increasing the holder clamping force with 6 holder bolts.

- **Tool Size** (OD/ID) : □ 32/Ø63 mm (□ 1.3″/Ø2.5″)
- **No. of Tools** : 12 EA
- **Indexing Time** : 0.25 sec/step
- **No.of Holder Bolts** : 6 EA

High-Precision Spindle

Long Lasting High Accuracy & Excellent Performance
CNC Turning Center



Special Chuck OPTION

Finger chuck dedicated to aluminum wheel processing offers stable machining even at fast binding and high-speed rotation. This special chuck is designed to be processed quickly and accurately.

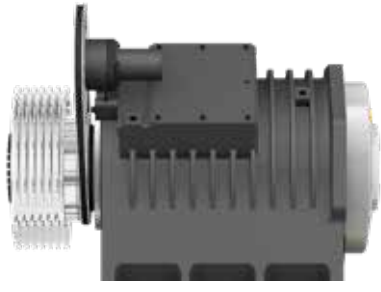
High-power Spindle

KL6500AW main spindle is combined with high rigidity large bearings to maintain rigidity and high accuracy in order to achieve optimal performance when machining aluminum wheels. With a high-power spindle motor of up to 37kW (49.6 HP), it is able to demonstrate powerful torque of 553N·m (407.9lbf·ft), thus showing optimal performance for medium and large sized aluminum wheels.

2,000 rpm (Belt)

37 kW
Max. Output
(50 HP)

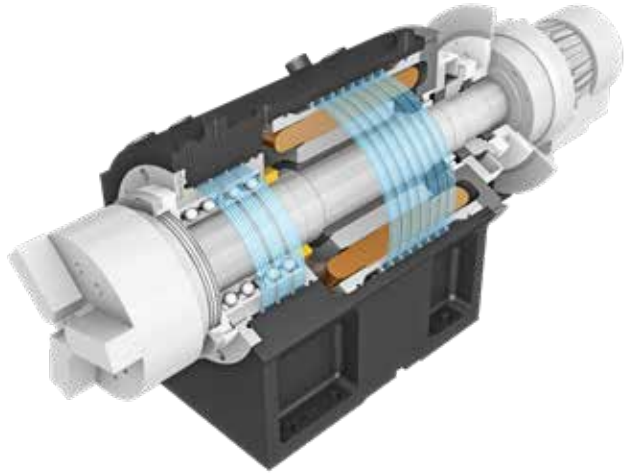
553 N·m
Max. Torque
(407.9 lbf.ft)



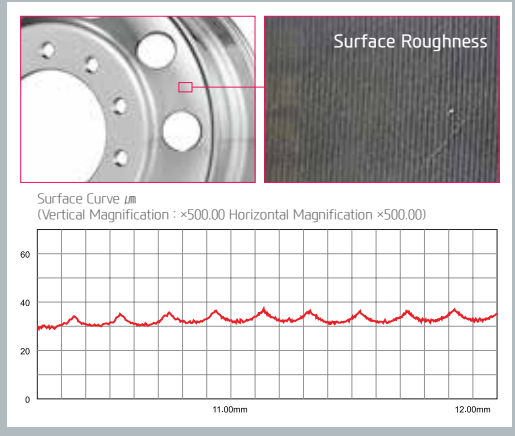
OPTION

For Mirror Finishing Machining
High-precision Built-in Spindle

With the optional built-in spindle L600AW, you can minimize the vibration and heat generation during machining and produce the best products with fast acc./deceleration.



Machining Ability



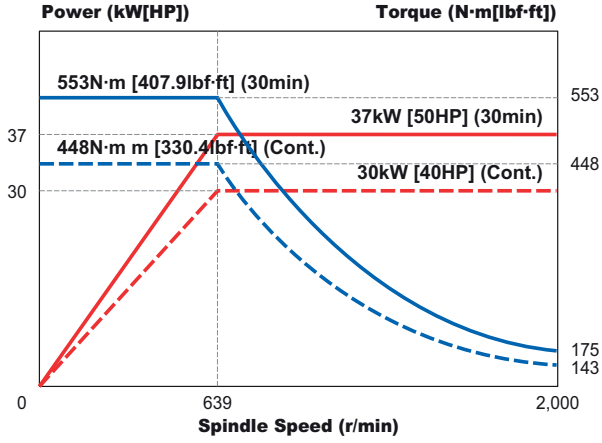
Utmost Quality of Wheel-machining Capability by Adopting Mirror Finishing

- **Roughness** : Under 1.6 Ra
- **Gloss** : Over 900 GU **(in commercial vehicle)**

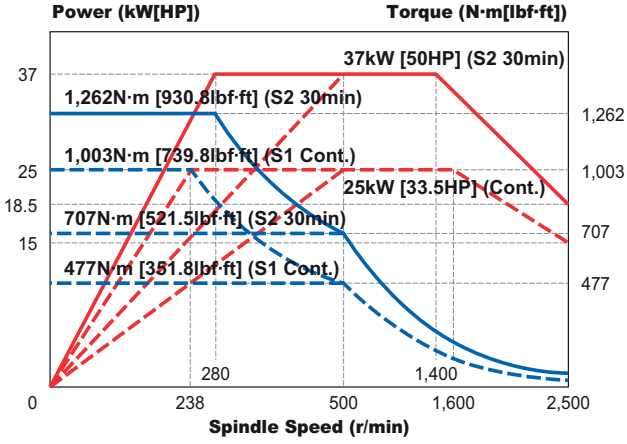
2,500 rpm (Built-in) OPTION

37 kW	1,262 N·m
Max. Output	Max. Torque
(50 HP)	(930.8 lbf.ft)

2,000rpm Belt



2,500rpm Built-in OPTION



n3 L-AW Series

LV800RAW

Powerful Cutting Capability,
AL Wheel CNC Vertical Turning Center

Box Type Column

One-piece, square type column offers the ultimate stability by absorbing vibration and eliminating distortion.

This delivers superior precision even during heavy duty cutting.

Vertical Turning Center for Commercial Vehicle

22.5 inch Recommended Wheel	448/800 (17.6/31.5) mm (inch) Travel (X/Z)
	20/20 (787/787) m/min (ipm) Rapid Traverse Rate (X/Z axis)

Basic Features

Wheel Machine for Large Commercial Vehicles

The LV800RAW is designed to be able to process up to 22.5 inches of aluminum wheels in the recommended machining diameter. Especially, this vertical structure offers more stable machining due to tightened workpiece by self load.

Right/Left Machine Structure

LV800RAW provides Right/Left sided structure depending on the location of the main spindle and the tool rest, which makes it possible to facilitate optimal factory automation.

Convenient Maintenance Structure

User convinience has significantly enhanced due to positioning utility units in front of the machine for easier application and maintenance.
(Utility units : Hydraulic, Lubricating oil)

01

Box Guideway

All axes of the LV800RAW feature box guideways.
Box guideway provides unsurpassed long term rigidity and accuracy, even during heavy duty cutting.

Ball Screw

Both ends of the ball screw are fixed by double anchor method, ensuring the stability of the transfer to exact parallelism with the slide way.

02

Chip Influx Protection

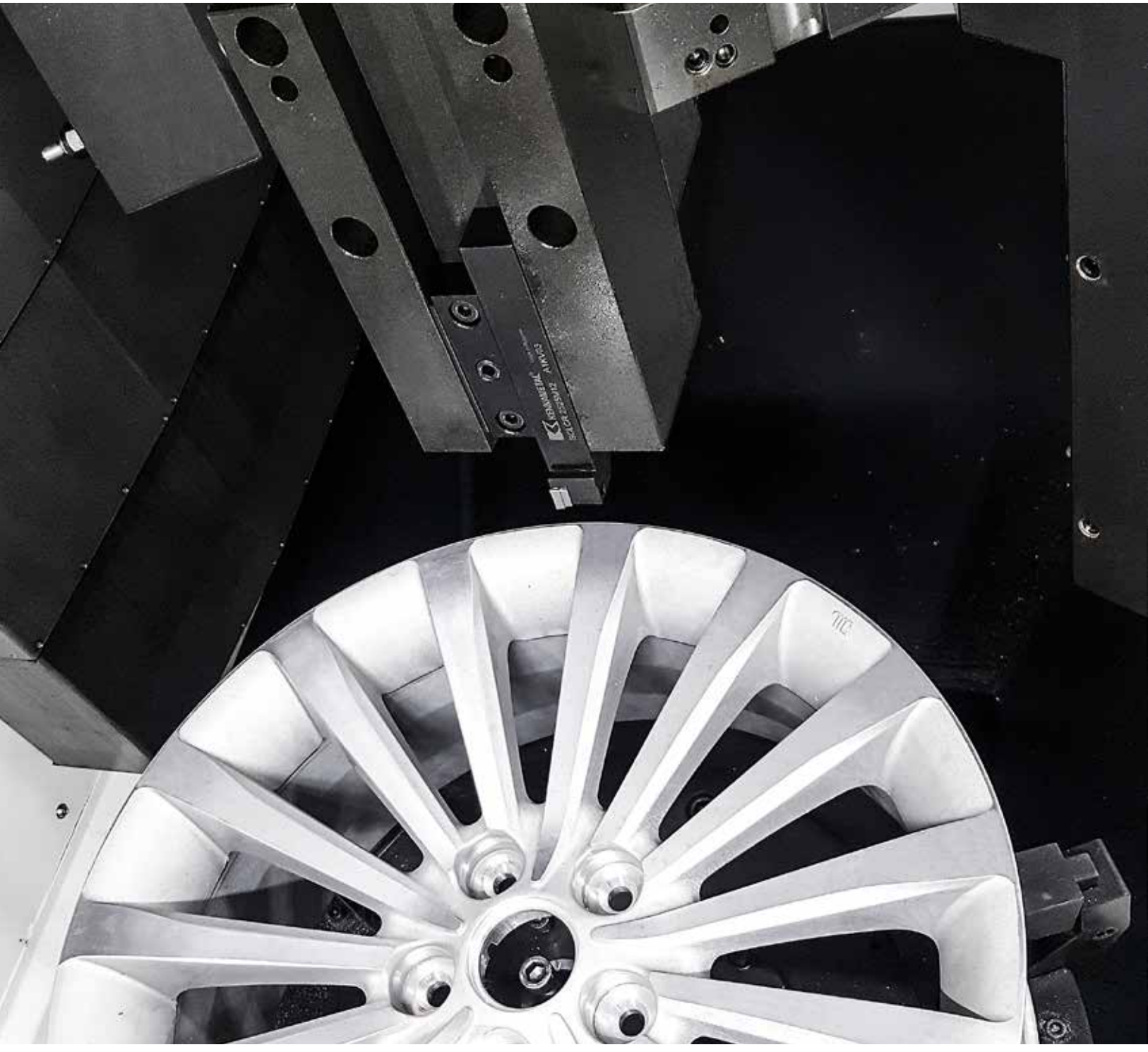
LV800RAW has protective measures to keep chips and other debris from entering the main spindle, ensuring long term and highly precision performance.

Chute Structure

The slope type bed design improves chip and cutting oil disposal and chute structure blocks thermal distortion.

High-Precision Spindle

Long Lasting High Accuracy & Excellent Performance
Vertical Turning Center



Superior performance for Aluminum Wheel Processing for commercial vehicles

High-power Spindle

The spindle is specially designed for machining aluminum wheels for commercial vehicles. High torque spindle motor with 45kW (60HP) is adopted to produce 530N·m(390lbf·ft) torque in 500~1,200rpm range, which is optimal for aluminum wheel cutting.

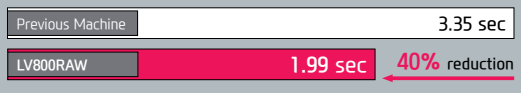
Heavy Duty Cutting Spindle

High rigidity bearing structure makes it possible to operate without any trouble even with heavy duty cutting. It is designed to minimize vibration and thermal displacement.

Step Chuck Clamping System

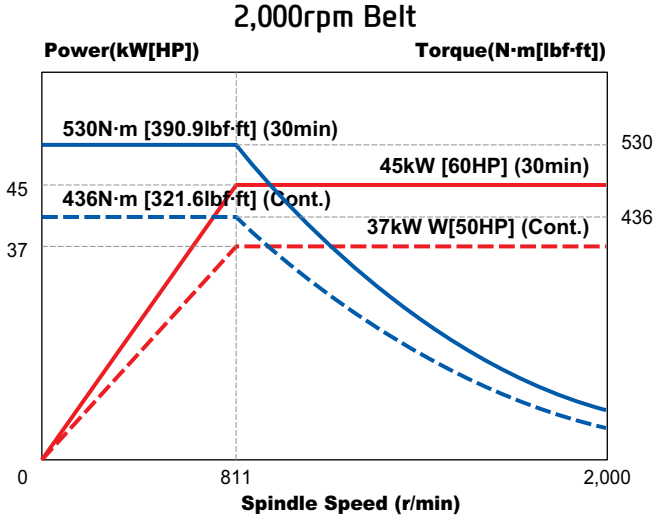
Step chucking system offers low pressure for heavy duty cutting or high pressure for precision cutting. This is provided as standard feature to enhance machining performance with minimal material deformation.

Decrease spindle acc./dec. time by 40%



Special Chuck OPTION

Finger chuck dedicated to aluminum wheel processing offers stable machining even at fast binding and high-speed rotation. This special chuck is designed to be processed quickly and accurately.



2,000 rpm

45 kW	530 N·m
Max. Output	Max. Torque
(60 HP)	(390.9 lbf.ft)

04

L-AW Series

Automation System

Optimal Automation System for High Quality and Productivity

AL. Wheel Machining Area

I.D/O.D Machining

Horizontal Turning Center

KL6500AW

Vertical Turning Center

LV800RAW
LV800AW-TT

Lug Hole Machining

Vertical Machining Center

Under 18″ : KF5600 II
Over 18″ : KF6700 II

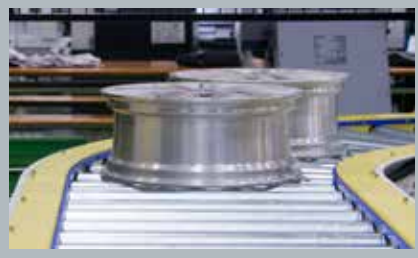
Air Hole Machining

VMC + 4-axis NCRT

Robot & Gripper

Hyundai WIA is able to deliver high quality factory automation system through the precision technologies accumulated during its long history of machine tool manufacturing.

In/Out Conveyor



For increasing the working efficiency, Hyundai WIA utilizes the conveyor to deliver work in and out during machining process.

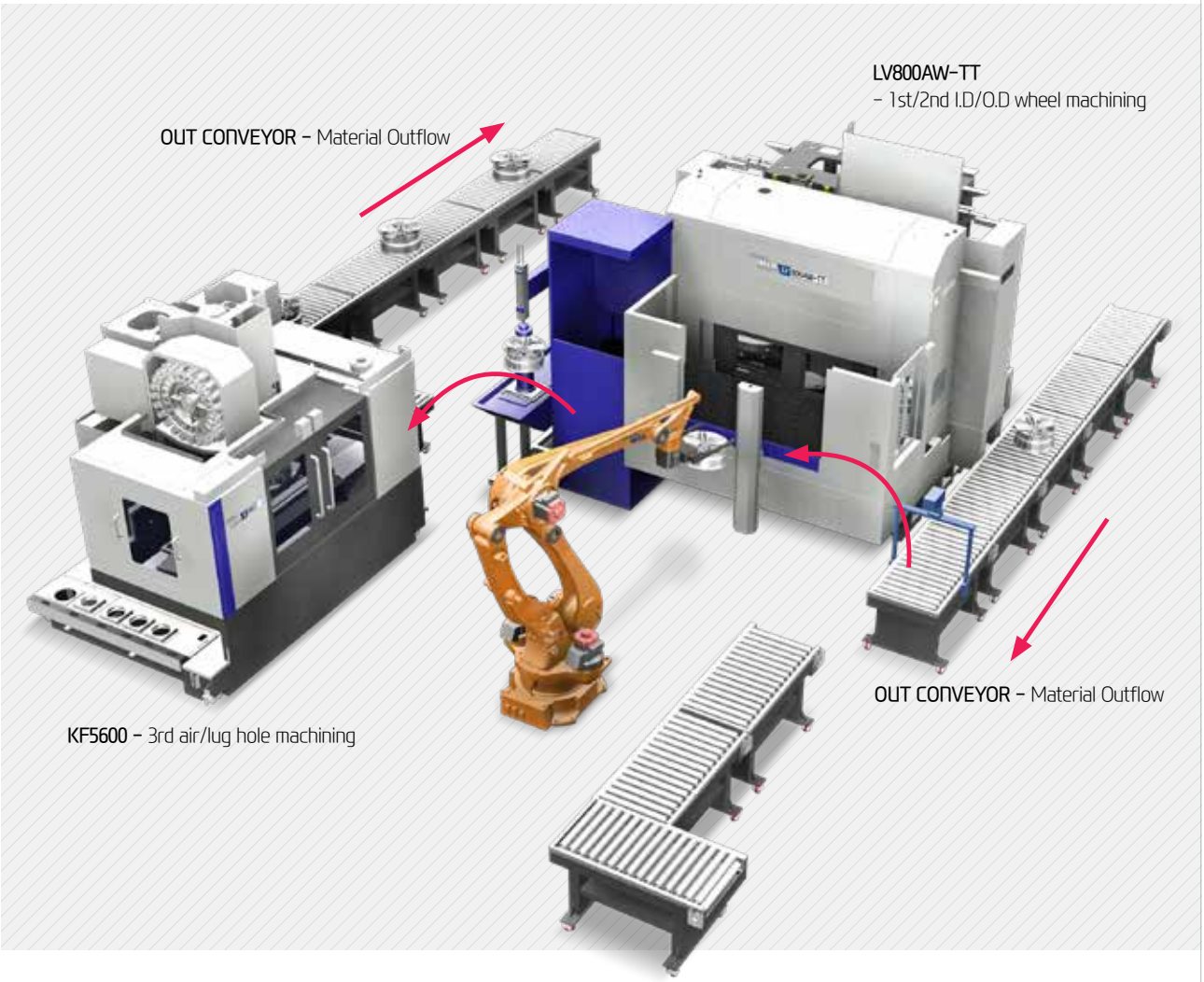
Vision System

The vision system functions to position the processing area (lug hole, air valve hole) of the wheel to be machined in the machining center after finishing the lathe process.

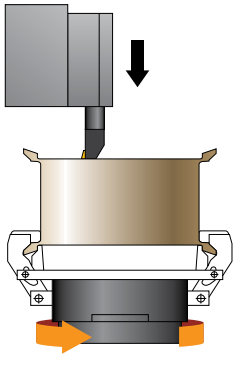
LV800AW-TT

LV800AW-TT + KF5600 + ROBOT (4-AXIS) + IN/OUT CONVEYOR +
VISION SYSTEM + AIR BLOW + MEASURING DEVICE

Automation System



Surface Roughness



LV800AW-TT Cutting Test

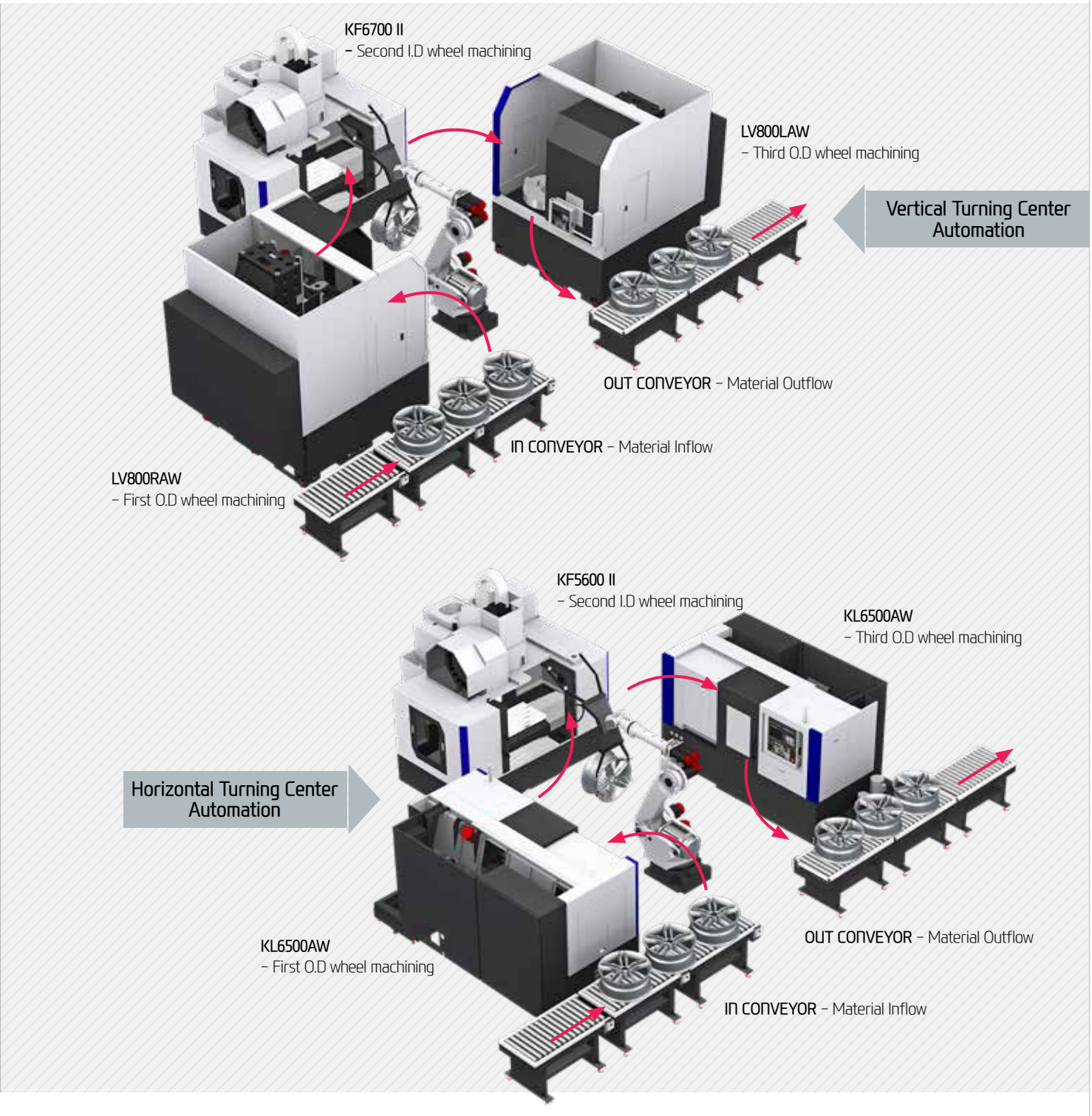
Product type	19×7J (Ø487.4×178)
Sp. Speed	1,800 r/min
Feed Speed	Max. 0.7mm/rev
Cutting Depth	Max. 3.0mm
Coolant	6% water solubility
Cutting Time	119 sec

Outline/Gloss/I.D & O.D Matching : Fine

KL6500AW / LV800RAW

KL6500AW (Horizontal) + KF5600 II + ROBOT (6-AXIS) + IN CONVEYOR + OUT CONVEYOR
LV800RAW (Vertical) + KF6700 II + ROBOT (4-AXIS) + IN CONVEYOR + OUT CONVEYOR

Automation System



Machining Center & Robot

Various Machining Center & Robot for Optimal Automation System

❖ The above 4-axis NCRT image for aluminum wheel processing is an image to help understanding of A-axis driving.
In actual machining, the rotation angle of A axis is identical to angle of air valve hole.

Under 18″ : KF5600 II

[ ] : Option

1,100/560/520 mm Travel (X/Y/Z)

Table Size	1,250×560 mm (49.2″x22″)
Max. Load Capacity	1,000 kg (2,205 lb)
Spindle Speed	8,000 r/min
Spindle Output (Max./Cont.)	15/11 kW (20/15 HP)
Spindle Taper	BBT40
Number of Tools	30 EA [40, 60 EA]
Rapid Traverse Rate(X/Y/Z)	36/36/30 m/min (1,417/1,417/1,181 ipm)

Over 18″ : KF6700 II

[ ] : Option

1,300/670/635 mm Travel (X/Y/Z)

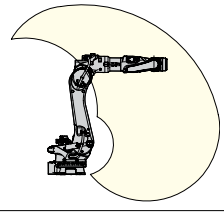
Table Size	1,500×670 mm (59″x26.4″)
Max. Load Capacity	1,300 kg (2,866 lb)
Spindle Speed	8,000 r/min
Spindle Output (Max./Cont.)	18.5/15 kW (25/20 HP)
Spindle Taper	BBT40
Number of Tools	30 EA [40, 60 EA]
Rapid Traverse Rate(X/Y/Z)	36/36/30 m/min (1,417/1,417/1,181 ipm)

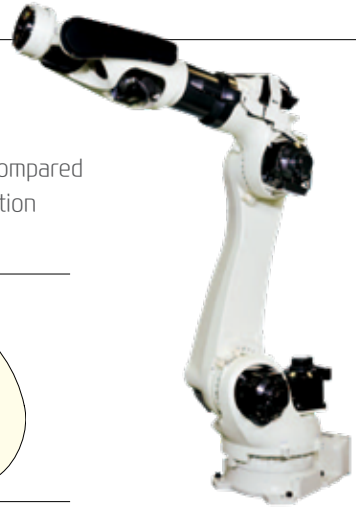
BX200L – HYUNDAI WIA 6 Axis Robot

200 kg Payload

BX series robots can minimize the installation area compared to existing robots, which is very efficient for automation configuration considering factory layout.

Motion Range	Arm rotation	(JT1)	±160 °
	Arm in-out	(JT2)	+120 ° ~ −65 °
	Arm up-down	(JT3)	+90 ° ~ −81 °
	Wrist twist	(JT4)	±210 °
	Wrist bend	(JT5)	±125 °
	Wrist swivel	(JT6)	±210 °
Motion Range			1,634 mm (64.3″)





SPECIFICATIONS

Standard & Optional

● : Standard ○ : Option ☆ : Prior Consultation – : Non Applicable

Spindle		KL6500AW
Main Spindle Hollow Chuck 3 Jaw	18″	○
Main Spindle Solid Chuck 3 Jaw	15″	○
Standard Soft Jaw (1set)		○
Chuck Clamp Foot Switch		●
2 Steps Hyd. Pressure Device		–
Spindle Inside Stopper		–
5° Index		☆
Cs-Axis (0.001°)		☆
Chuck Open/Close Confirmation Device		○ (CE: ●)
2 Steps Chuck Foot Switch		☆
Special Chuck For AL. Wheel	Max 17″ Wheel	–
	Max 20″ Wheel	–
	Max 24″ Wheel	☆
Turret		
Inner Base Holder (Wheel Turning)		●
Out Dia Base Holder (Wheel Turning)		●
Face Tool Holder (Wheel Turning)		●
Mill Turret		–
Boring Bar Sleeve		●
Drill Socket		–
U-Drill Holder		–
U-Drill Holder Sleeve		–
O.D Extension Holder	For Out-Dia	☆
Tail Stock & Steady Rest		
Manual Tail Stock		–
Programable Tail Stock		–
Manual Type Hyd. Steady Rest		–
Standard Live Center		–
High Precesion Live Center		–
2 Steps Tail Stock Pressure System		–
Quill Forward/Reverse Confirmation Device		–
Tail Stock Foot Switch		–
Coolant & Air Blow		
Standard Coolant (Nozzle)		●
Chuck Coolant (Upper Chuck)		○
Gun Coolant		○
Through Spindle Coolant (Only for Special Chuck)		☆
Chuck Air Blow (Upper Chuck)		○
Tail Stock Air Blow (Upper Tail Stock)		–
Turret Air Blow		☆
Air Gun		○
Through Spindle Air Blow (Only for Special Chuck)		☆
High Pressure Coolant	1.5Bar	●
	6Bar	○
	20Bar	○
Shower Type Coolant Device		●
Power Coolant System (For Automation)		☆
Coolant Chiller (When selecting sub tank type, chip conveyor)		☆
Chip Disposal		
Coolant Tank	252 ℓ (66.6 gal)	–
	276 ℓ (72.9 gal)	●
Chip Conveyor (Hinge/Scraper)	Front (Right)	○
	Front (Rear)	–
Special Chip Conveyor (Drum Filter)		☆
Chip Wagon	Standard (180 ℓ [47.5 gal])	○
	Swing (200 ℓ [52.8 gal])	○
	Large Swing (290 ℓ [76.6 gal])	○
	Customized	☆
Safety Device		
Total Splash Guard		●
Chuck hydraulic pressure maintenance interlock		○ (CE: ●)

Electric Device		KL6500AW
Call Light	1Color : ■	●
Call Light & Buzzer	3Color : ■ ■ ■ B	○
Electric Cabinet Light		○
Remote MPG		–
Work Counter	Digital	○
Total Counter	Digital	○
Tool Counter	Digital	○
Multi Tool Counter	Digital	○
Electric Circuit Breaker		○
AVR (Auto Voltage Regulator)		☆
Transformer	36kVA	–
	50kVA	○
Auto Power Off		○
Measurement		
Q-Setter		–
Automatic Q-Setter		–
Work Close Confirmation Device (Only for Special Chuck)	TACO	☆
	SMC	☆
Work Setter		☆
Linear Scale	X Axis	☆
	Z Axis	☆
Coolant Level Sensor (Only for Chip Conveyor)		☆
Environment		
Air Conditioner		○
Oil Mist Collector		☆
Oil Skimmer (Only for Chip Conveyor)		☆
MQL (Minimal Quantity Lubrication)		☆
Fixture & Automation		
Auto Door	Standard	○
	High Speed	○
Auto Shutter (Only for Automatic System)		☆
Sub Operation Pannel		☆
Bar Feeder Interface		–
Bar Feeder (FEDEK)		–
Extra M-Code 4ea		○
Automation Interface		☆
I/O Extension (IN & OUT)	16 Contact	○
	32 Contact	○
Parts Catcher	Main SP.	–
Turret Work Pusher (For Automation)		☆
Parts Conveyor (Need to apply main part catcher)		–
Hyd. Device		
Standard Hyd. Cylinder	Solid	●
Standard Hyd. Unit	35bar/30 ℓ	●
S/W		
Automatic CAM (HW-ACAM)		–
Dialogue Program (HW-DPRO)		○
DNC software (HW-eDNC)		○
Machine Monitoring System (HW-MMS Cloud)		☆
Machine Monitoring System (Customer Installation : HW-MMS Edge)		☆
Smart Guide-i : FANUC		● (F31-B : ☆)
Smart S/W		☆
ETC		
Tool Box		●
Customized Color	Need Munsel No.	☆
CAD & CAM		☆

Specifications are subject to change without notice for improvement. / Please refer to the S/W catalog (iRiS) for details by S/W product.

SPECIFICATIONS

Standard & Optional

● : Standard ○ : Option ☆ : Prior Consultation – : Non Applicable

Spindle		LV800RAW	LV800AW-TT
Main SpindleHollow Chuck 3 Jaw		–	–
Main Spindle Solid Chuck 3 Jaw	18″	●	–
	21″	○	–
	24″	○	–
Standard Soft Jaw (1set)		●	–
Chuck Clamp Foot Switch		●	●
2 Steps Hyd. Pressure Device		●	–
Spindle Inside Stopper		–	–
5° Index		☆	–
Cs-Axis (0.001°)		–	–
2 Steps Chuck Foot Switch		○	○
Chuck Open/Close Confirmation Device		○(CE:●)	○(CE:●)
AL. Wheel 가공 특수척	22.5″	☆	☆
Turret			
Tool Holder		●	●
8 station Turret		–	●
12 station Turret		●	–
Mill Turret		–	–
Straight Milling Head (Radial)	Collet Type,1EA	–	–
Angular Milling Head (Axial)	Collet Type,1EA	–	–
Straight Milling Head (Radial)	Adapter Type	–	–
Angular Milling Head (Axial)	Adapter Type	–	–
Boring Sleeve		●	☆
Drill Socket		●	–
U-Drill Holder		●	–
U-Drill Holder Sleeve		○	–
Angle Head		–	–
Tail Stock & Steady Rest			
Manual Tail Stock		–	–
Coolant & Air Blow			
Standard Coolant (Nozzle)		●	●
Bed Flusing Coolant		●	●
Jet Coolant		○	●
Chuck Coolant (Upper Chuck)		○	●
Gun Coolant		○	☆
Through Spindle Coolant (Only for Special Chuck)		–	–
Thru Coolant for Live Tool		–	–
Chuck Air Blow (Upper Chuck)		○	–
Turret Air Blow		☆	–
Air Gun		○	○
Through Spindle Air Blow (Only for Special Chuck)		☆	–
High Pressure Coolant	6Bar	●	●
	20Bar	○	☆
Power Coolant System (For Automation)		☆	☆
Coolant Chiller		☆	☆
Chip Disposal			
Coolant Tank	340ℓ (89.8 gal)	●	–
	950ℓ (251 gal)	–	○
Chip Conveyor (Hinge/Scraper)	Rear (Right)	○/–	–
	Rear (Left)	–/○	–
Special Chip Conveyor (Drum Filter)		☆	○
Chip Wagon	Standard (180ℓ [47.5 gal])	○	–
	Swing (200ℓ [52.8 gal])	○	–
	Large Swing (290ℓ [76.6 gal])	○	–
	Large Size (330ℓ [87.2 gal])	○	○
	Customized	☆	☆
Safety Device			
Total Splash Guard		●	●
Chuck hydraulic pressure maintenance interlock		○(CE:●)	○(CE:●)

Electric Device		LV800RAW	LV800AW-TT
Call Light	1Color : ■	●	○
Call Light & Buzzer	3Color : ■ ■ ■ B	○	●
Electric Cabinet Light		○	○
Remote MPG		○	●
Work Counter	Digital	○	○
Total Counter	Digital	○	○
Tool Counter	Digital	○	○
Multi Tool Counter	Digital	○	○
Electric Circuit Breaker		○	○
AVR (Auto Voltage Regulator)		☆	☆
Transformer	45kVA	○	–
	100kVA	–	○
Auto Power Off		○	○
Measurement			
Q-Setter (Removable)		–	–
Automatic Q-Setter		–	–
Work Close Confirmation Device (Only for Special Chuck)	FESTO	☆	●
	Etc.	☆	☆
Work Setter		☆	☆
Linear Scale	X Axis	○	☆
	Z Axis	○	☆
Coolant Level Sensor (Only for Chip Conveyor)		☆	○
Environment			
Air Conditioner		○	○
Oil Mist Collector		☆	☆
Oil Skimmer (Only for Chip Conveyor)		○	○
MQL (Minimal Quantity Lubrication)		☆	☆
Fixture & Automation			
Auto Door	Standard	○	○
	High Speed	☆	☆
Auto Shutter (Only for Automatic System)		–	–
Sub Operation Pannel		○	●
Extra M-Code 4ea		○	○
Automation Interface		☆	☆
I/O Extension (IN & OUT)	16 Contact	○	○
	32 Contact	○	○
Turret Work Pusher (For Automation)		☆	–
Hyd. Device			
Standard Hyd. Cylinder	Solid	●	●
Standard Hyd. Unit	70bar/24ℓ	●	–
	50bar/63ℓ	–	●
S/W			
Automatic CAM (HW-ACAM)		–	–
Dialogue Program (HW-DPRO)		○	○
DNC software (HW-eDNC)		○	○
Machine Monitoring System (HW-MMS Cloud)		☆	☆
Machine Monitoring System (Customer Installation : HW-MMS Edge)		☆	☆
Smart Guide-i : FANUC		☆	☆
Smart S/W		☆	☆
ETC			
Tool Box		●	●
Customized Color	Need Munsel No.	☆	☆
CAD & CAM		☆	☆
Special Level Sheet	For Air Chuck	☆	☆

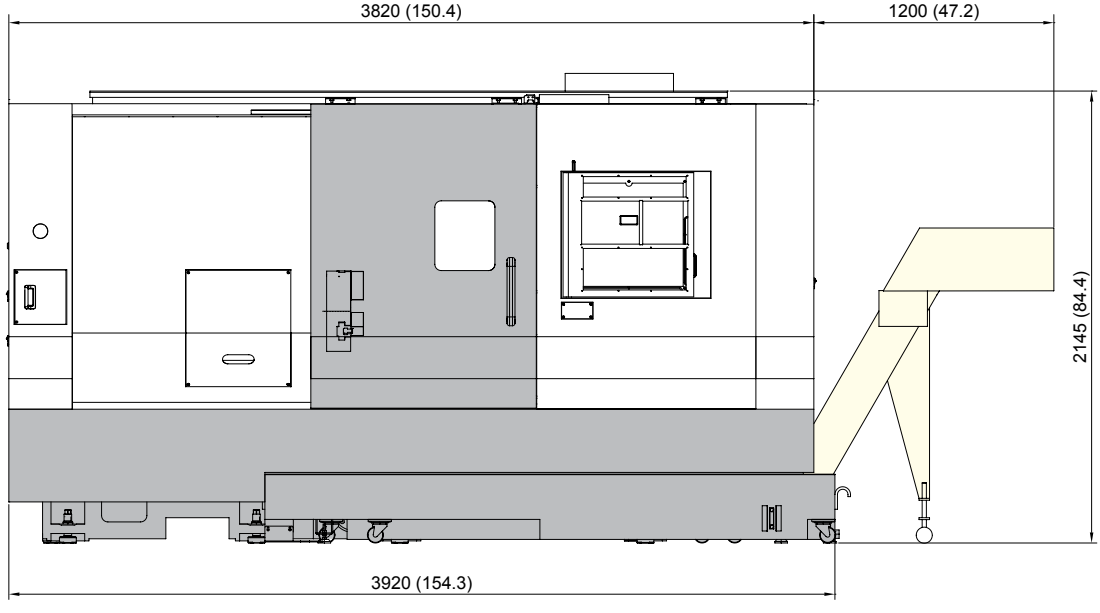
Specifications are subject to change without notice for improvement. / Please refer to the S/W catalog (iRiS) for details by S/W product.

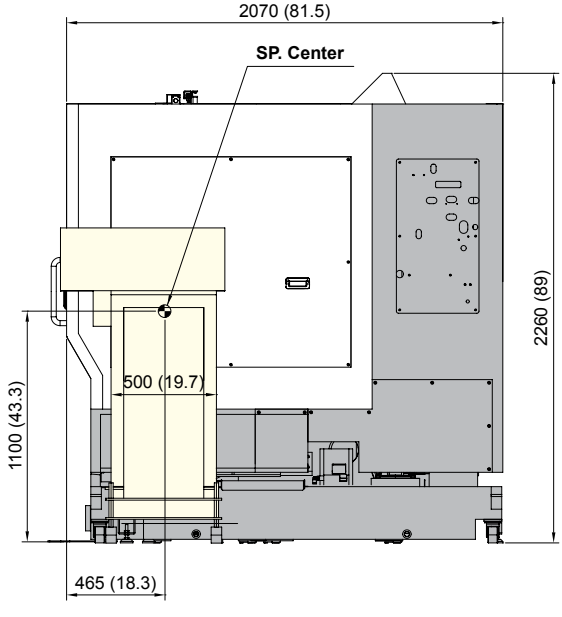
SPECIFICATIONS

External Dimensions

unit : mm(in)

KL6500AW



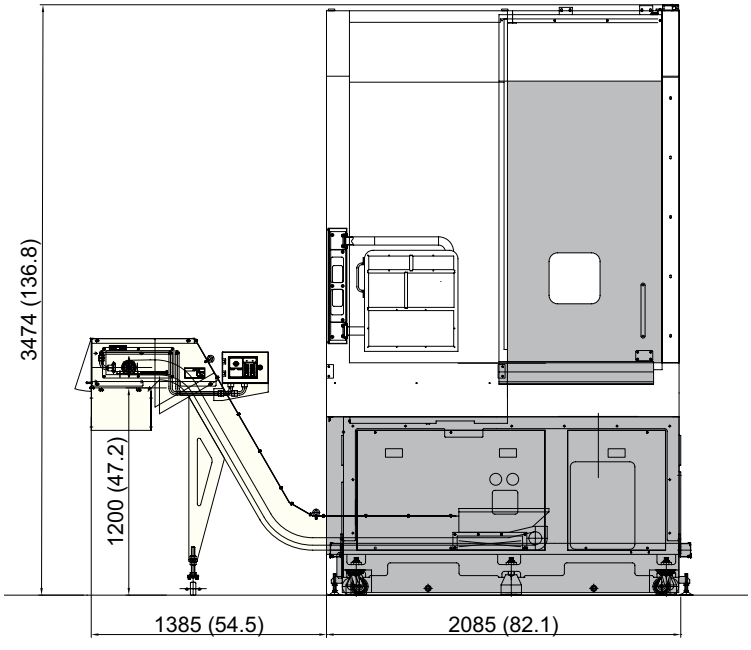


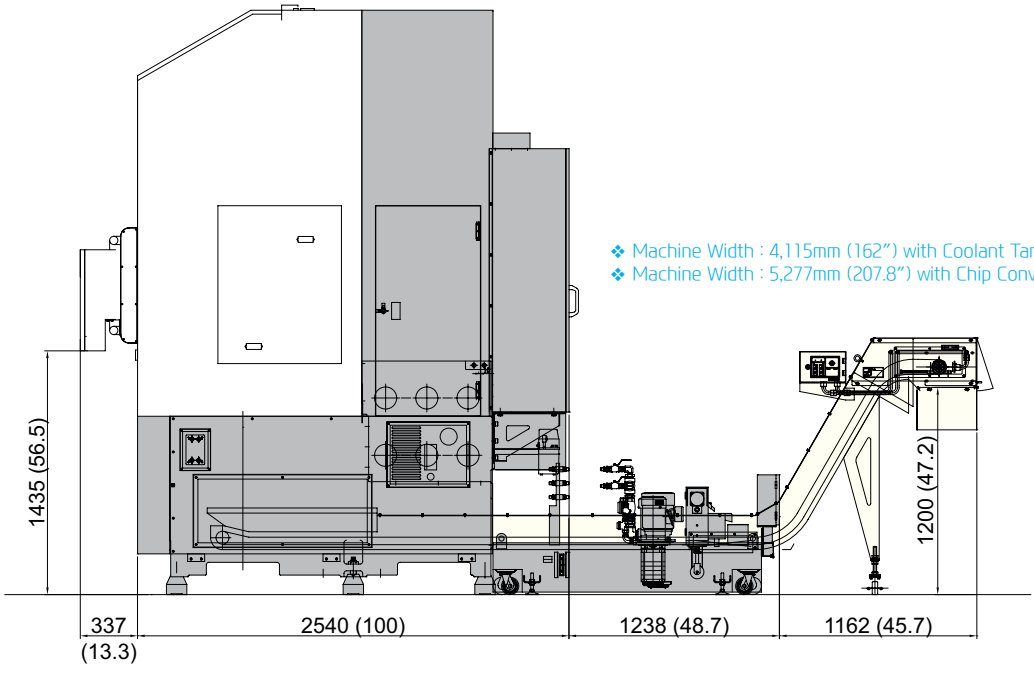
SPECIFICATIONS

External Dimensions

unit : mm(in)

LV800RAW





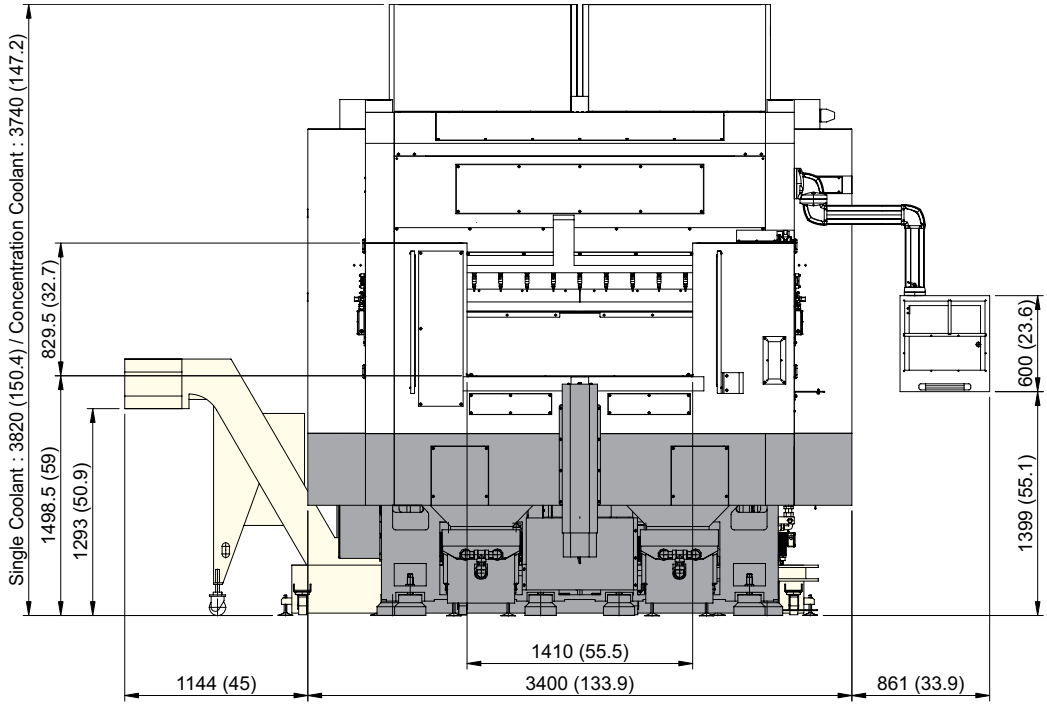
- Machine Width : 4,115mm (162") with Coolant Tank
- Machine Width : 5,277mm (207.8") with Chip Conveyor

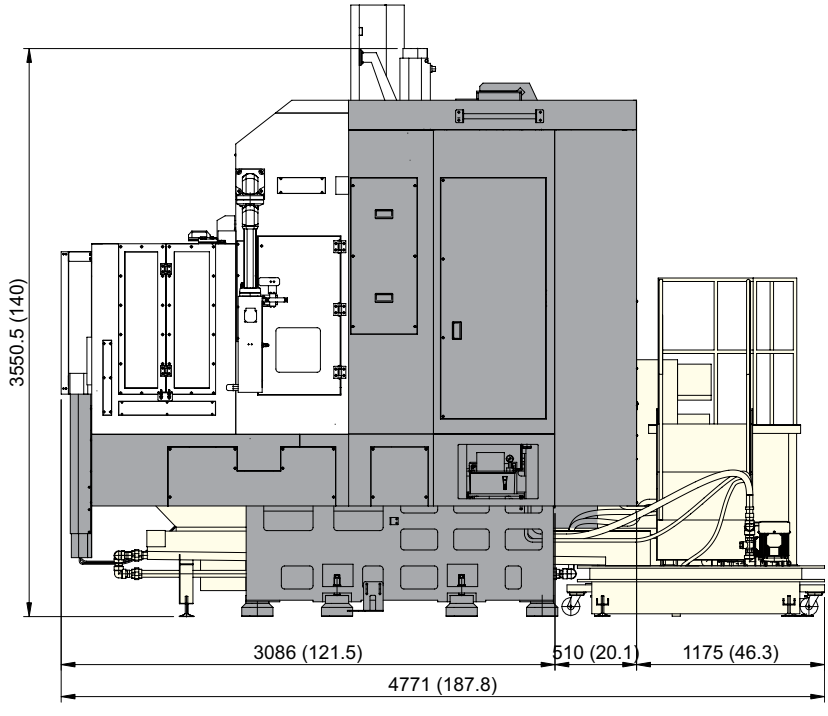
SPECIFICATIONS

External Dimensions

unit : mm(in)

LV800AW-TT



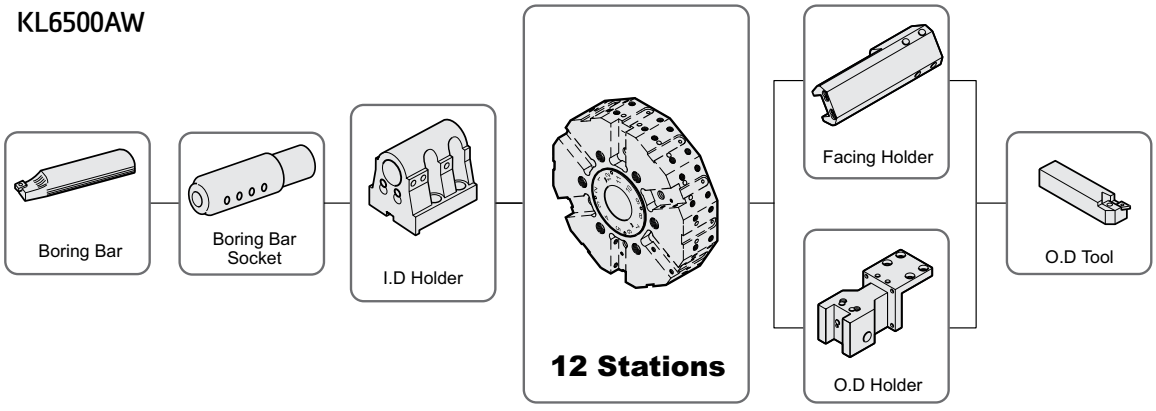


SPECIFICATIONS

Tooling System

unit : mm(in)

KL6500AW



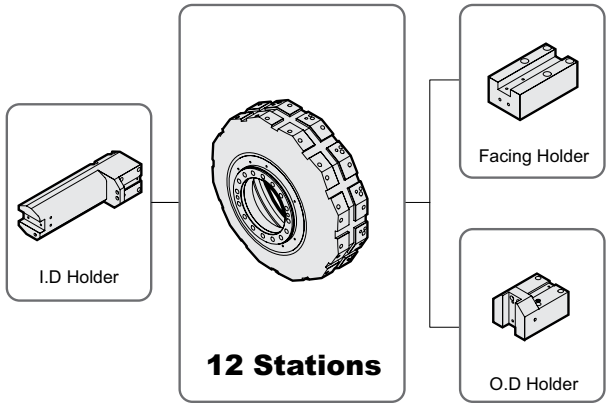
Tooling Parts Detail

ITEM			KL6500AW	
			mm Unit	inch Unit
Turning Holder	O.D Holder	Right/Left	2	-
	Facing Holder		2	-
Boring Holder	I.D Holder	Single	2	-
Socket	Boring	Ø32 (Ø1 1/4")	1	-

Tooling System

unit : mm(in)

LV800RAW



Tooling Parts Detail

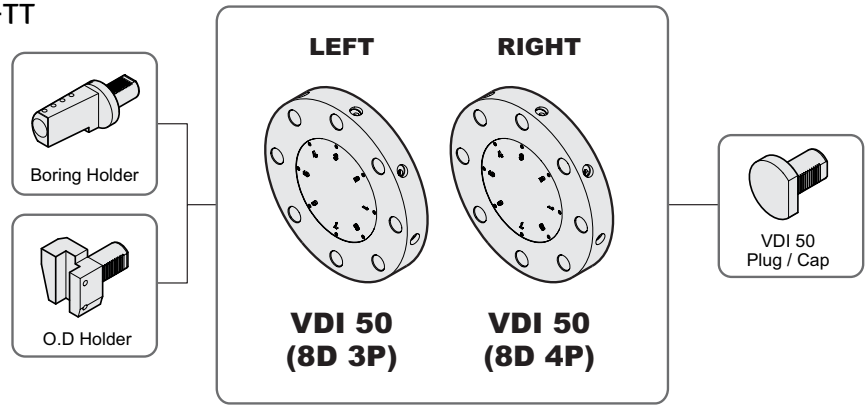
ITEM			LV800RAW	
			mm Unit	inch Unit
Turning Holder	O.D Holder	Right/Left	2	2
	Facing Holder		2	2
	I.D Holder	Long	2	2

SPECIFICATIONS

Tooling System

unit : mm(in)

LV800AW-TT



Tooling Parts Detail

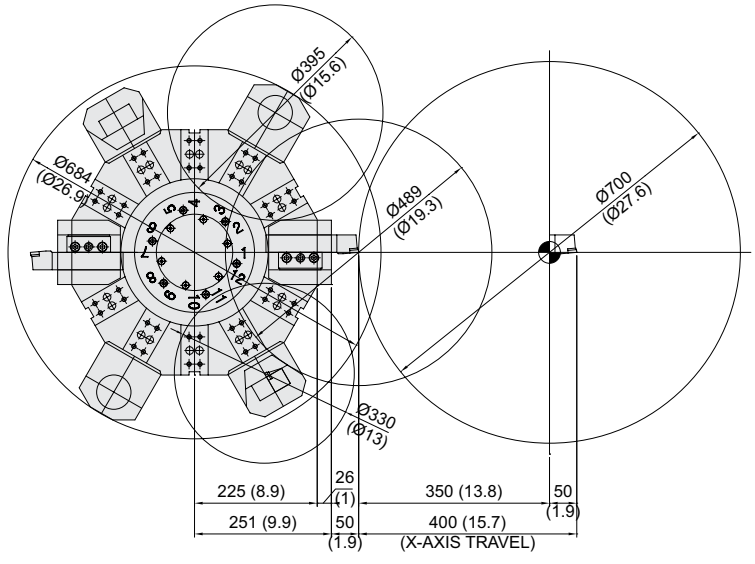
ITEM			LV800AW-TT (Right)		LV800AW-TT (Left)	
			mm Unit	inch Unit	mm Unit	inch Unit
Turning Holder	O.D Holder	Right/Left	-	-	2	2
Boring Holder	I.D Holder	Single	4	4	1	1
Socket	Plug		4	4	5	5

Specifications are subject to change without notice for improvement.

Interference

unit : mm(in)

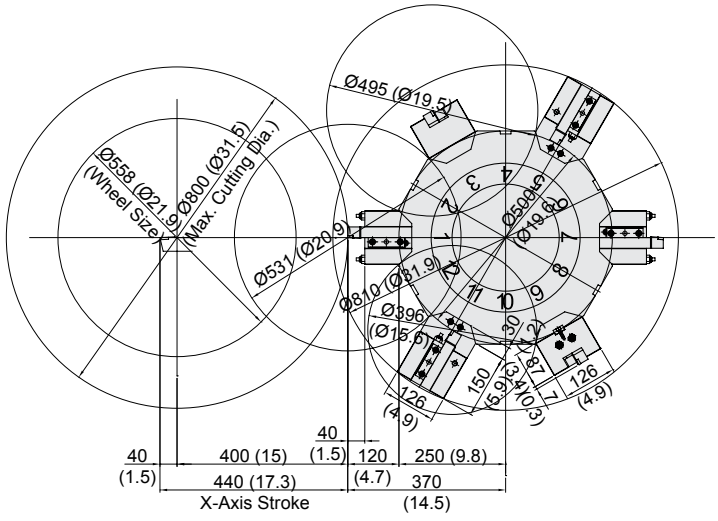
KL6500AW



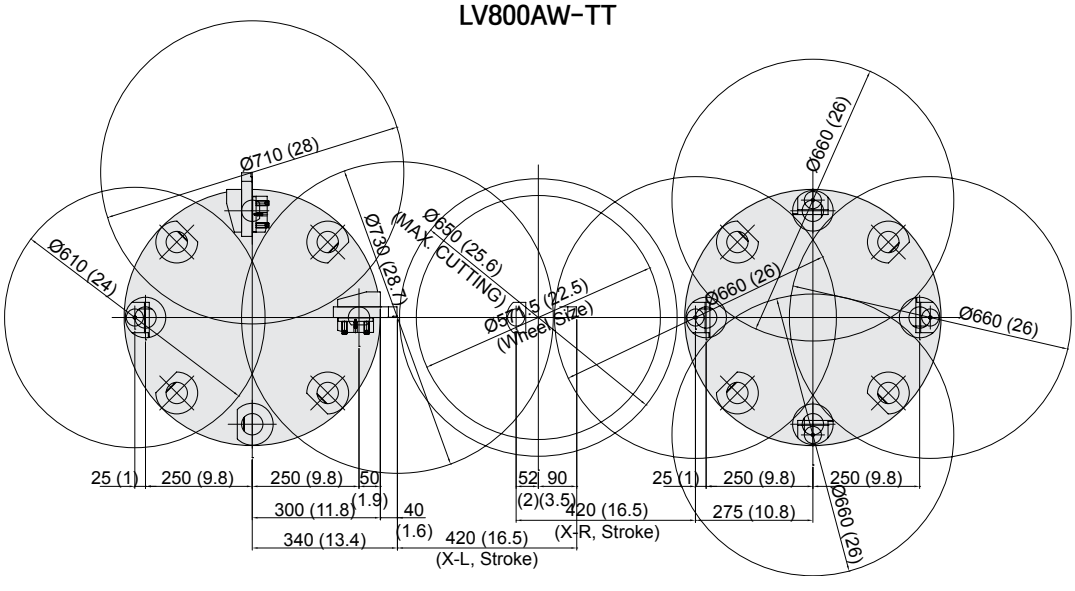
Interference

unit : mm(in)

LV800RAW



LV800AW-TT



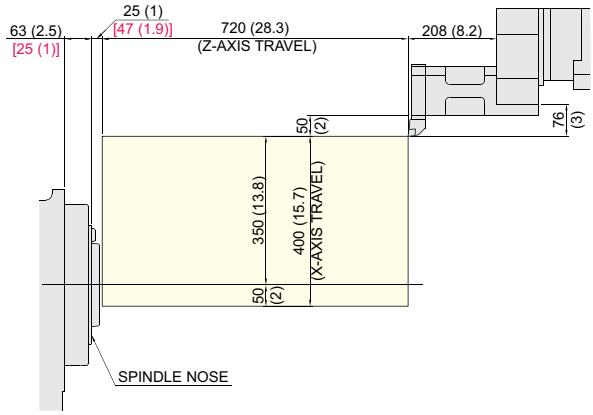
SPECIFICATIONS

Tooling Travel Range

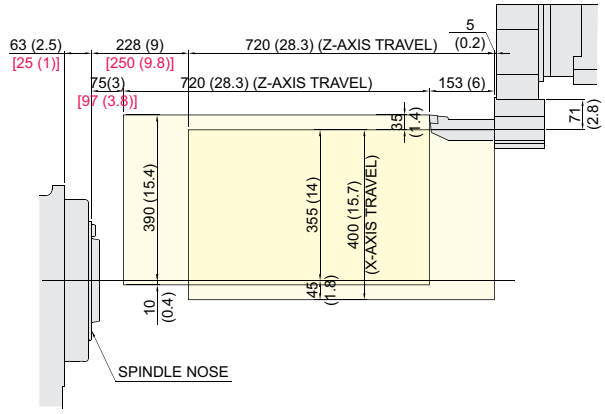
unit : mm(in)

KL6500RAW
[Mirror Finishing]

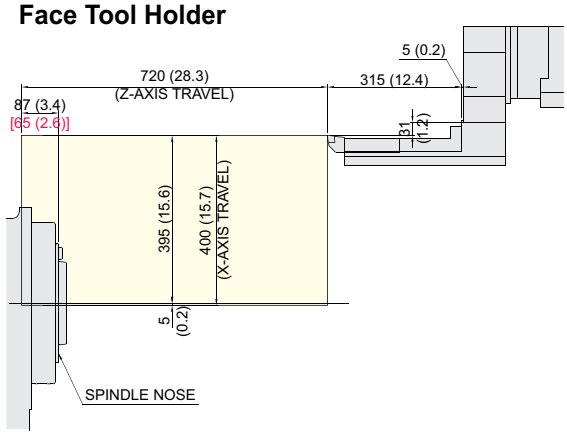
OD Tool Holder



ID Tool Holder



Face Tool Holder



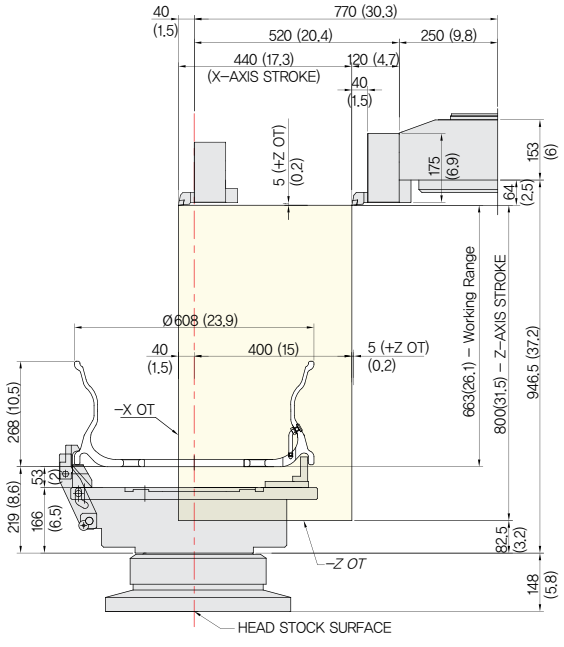
SPECIFICATIONS

Tooling Travel Range

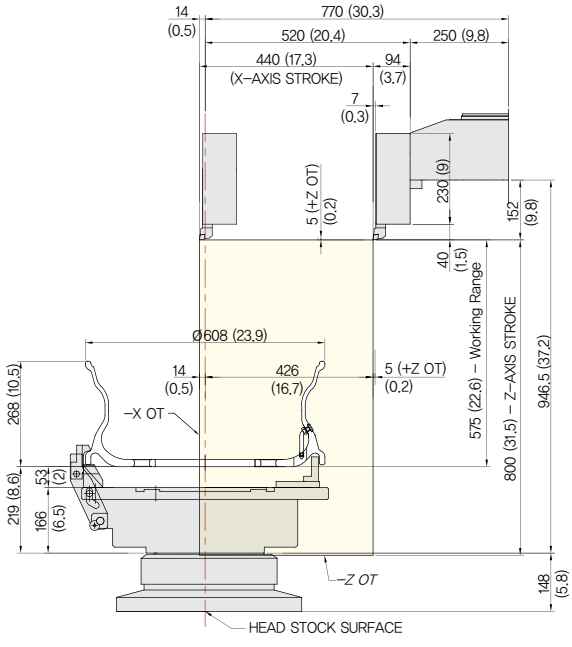
unit : mm(in)

LV800RAW

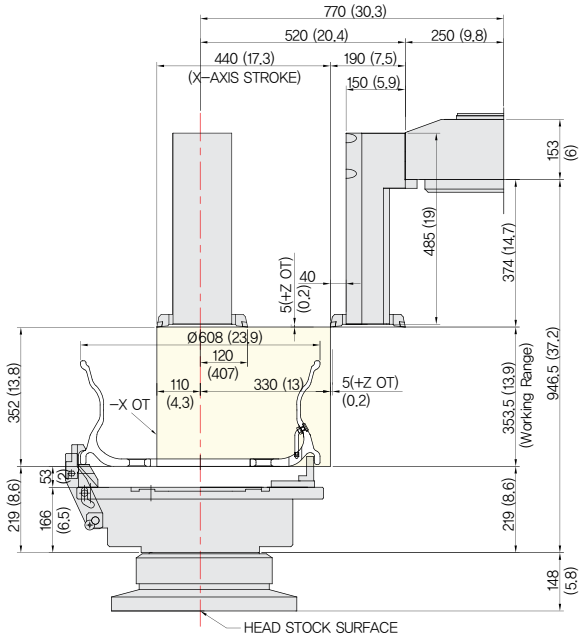
O.D Tool Holder



Facing Tool Holder



I.D Tool Holder

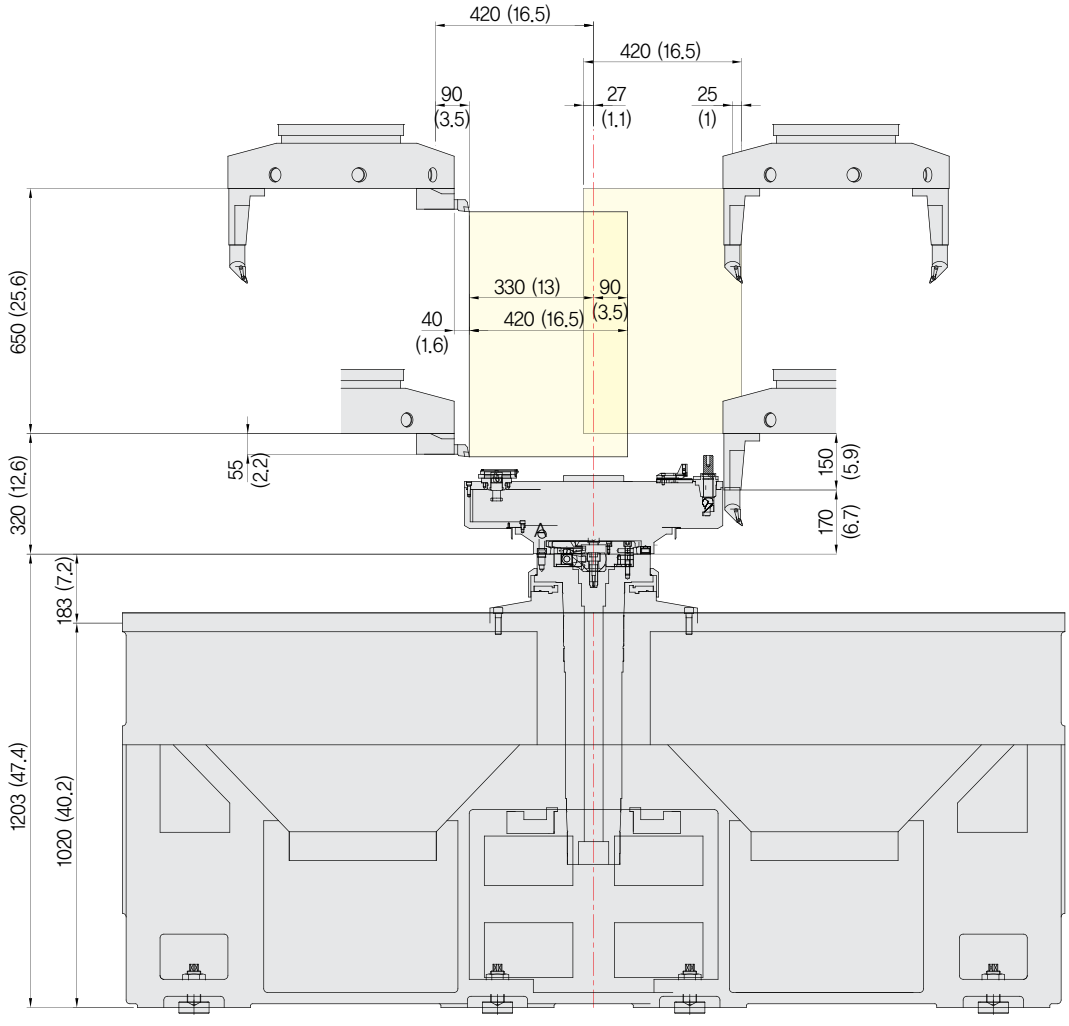


SPECIFICATIONS

Tooling Travel Range

unit : mm(in)

LV800AW-TT



SPECIFICATIONS

Specifications

[ ] : 선택사양

ITEM				KL6500AW [Mirror Finishing]
CAPACITY	Swing Over the Bed		mm(in)	Ø850 (33.5″)
	Max. Turning Dia.		mm(in)	Ø660 (26″)
	Max. Turning Length		mm(in)	710 (28″)
SPINDLE	Recommanded Wheel Size		inch	19″
	Spindle Bore		mm(in)	Ø130 (Ø5.7″)
	Spindl Speed (rpm)		r/min	2,000 [2,500]
	Motor (Max/Cont.)		kW(HP)	37/30 (50/40) [37/25 (50/33.5)]
	Torque (Max/Cont.)		N·m(lbf·ft)	553/448 (407.9/330.4) [1,262/1,003 (930.8/739.8)]
	Spindle Type		-	BELT [BUILT-IN]
	Spindle Nose		-	A2-11
FEED	Travel	X-Axis	mm(in)	400 (15.7″)
		Z-Axis	mm(in)	720 (28.3″)
	Rapid Traverse Rate (X/Z)		m/min(ipm)	20/24 (787/945)
	Slide Type		-	ROLLER LM GUIDE
TURRET	No. of Tools		-	12
	Tool Size	O.D	mm(in)	□ 32 (□ 1.3″)
		I.D	mm(in)	Ø63 (2.5″)
	Indexing Time		sec/step	0.25
LIVE TOOL	Motor Output (Max/Cont.)		kW(HP)	-
	Max. Speed (rpm)		r/min	-
	Torque (Max./Cont.)		N·m(lbf·ft)	-
	Collet Size		mm(in)	-
	Live Tool Type		-	-
TANK CAPACITY	Coolant Tank		ℓ (Gal)	276 (72.9)
	Lubricating Tank		ℓ (Gal)	1.8 (0.5)
POWER SUPPLY	Electric Power Supply		KVA	50
	Thickness of Power Cable		mm^2	Over 35
	Voltage		V/Hz	220/60 (200/50*)
MACHINE	Floor Space (L×W)		mm(in)	3,920×2,070 (154.3″x81.5″)
	Height		mm(in)	2,260 (89″)
	Weight		kg(lb)	7,800 (17,196)
NC	Controller		-	H/W FANUC i Series [FANUC 32i-B]

*) Using 50Hz voltage instead of 60Hz may lower the output of motors. (excluding servo motors and inverter motors)

Specifications are subject to change without notice for improvement.

SPECIFICATIONS

Specifications

[ ] : 선택사양

ITEM				LV800RAW/LAW	LV800AW-TT
CAPACITY	Swing Over the Bed		mm(in)	Ø890 (35″)	Ø760 (29.9″)
	Max. Turning Dia.		mm(in)	Ø800 (31.5″)	Ø650
	Max. Turning Length		mm(in)	800 (31.5″)	650
SPINDLE	Recommanded Wheel Size		inch	22.5″	19″
	Spindle Bore		mm(in)	Ø100 (3.9″)	Ø50
	Spindle Speed (rpm)		r/min	2,000	3,000
	Motor Output (Max/Cont.)		kW(HP)	45/37 (60/50)	55/37
	Torque (Max/Cont.)		N·m(lbf·ft)	530/436 (390.9/321.6)	495/294
	Spindle Type		-	BELT	BUILT-IN
	Spindle Nose		-	A2-11	A2-11
	C Axis Indexing Time		deg	-	-
FEED	Travel (X/Z)		mm(in)	440/800 (17.3″/31.5″)	420/650
	Rapid Traverse Rate (X/Z)		m/min	20/20 (787/787)	30/30
	Slide Type		-	BOX GUIDE	ROLLER LM GUIDE
TURRET	No. of Tools		EA	12	8+8
	Tool Size	O.D	mm(in)	□ 25 (1″)	□ 25 (1″)
		I.D	mm(in)	-	Ø40 (1.6″)
	Indexing Time		sec/step	0.2	0.35
LIVE TOOL	Motor Output (Max/Cont.)		kW(HP)	-	-
	Max. Speed (rpm)		r/min	-	-
	Torque (Max./Cont.)		N·m(lbf·ft)	-	-
	Collet Size		mm(in)	-	-
	Live Tool Type		-	-	-
TANK CAPACITY	Coolant Tank		ℓ (Gal)	700 (184.9)	950 (251)
	Lubricating Tank		ℓ (Gal)	2 (0.5)	3 (0.8)
POWER SUPPLY	Electric Power Supply		KVA	36	76
	Thickness of Power Cable		mm^2	Over 35	Over 95
	Voltage		V/Hz	220/60 (200/50*)	220/60 (200/50*)
MACHINE	Floor Space (L×W)		mm(in)	2,085×2,877 (82.1″×113.3″)	3,400×3,595 (133.9″×141.5″)
	Height		mm(in)	3,474 (136.8″)	{3,740 (147.2″) : Concentration Coolant / 3,820 (150.4″) : Single Coolant}
	Weight		kg(lb)	11,000 (24,251)	19,500 (42,990)
NC	Controller		-	FANUC 32i-B	FANUC 32i-B [H/W FANUC i Series]

*) Using 50Hz voltage instead of 60Hz may lower the output of motors. (excluding servo motors and inverter motors)

Specifications are subject to change without notice for improvement.

CONTROLLER

HYUNDAI WIA FANUC i Series

[ ] : Option

Controlled axis / Display / Accuracy Compensation	
Control axes	2 axes (X, Z) / 3 axes (X, Z, C / X, Z, B) / 4 axes (X, Z, Y, C)
	5 axes (X, Z, B, C, A) / 6 axes (X, Z, Y, B, C, A)
Simultaneously controlled axes	2 axes [Max. 4 axes]
Designation of spindle axes	3 axes (1 path)
Least setting Unit	X, Z, Y, B axes : 0.001 mm (0.0001 inch)
	C, A axes : 0.001 deg
Least input increment	X, Z, Y, B axes : 0.001 mm (0.0001 inch)
	C, A axes : 0.001 deg
Inch / Metric conversion	G20 / G21
High response vector control	
Interlock	All axes / Each axis
Machine lock	All axes
Backlash compensation	± 0 ~ 9999 pulses (Rapid traverse / Cutting feed)
Position switch	
LCD / MDI	10.4 inch color LCD
Feedback	Absolute motor feedback
Stored stroke check 1	Over travel
Stored stroke check 2, 3	
PMC axis control	
Operation	
Automatic operation (Memory)	
MDI operation	
DNC operation	Needed DNC software / CF card
Program restart	
Wrong operation prevention	
Program check function	Dry run
Single block	
Search function	Program Number / Sequence Number
Interpolation functions	
Nano interpolation	
Positioning	G00
Linear interpolation	G01
Circular interpolation	G02, G03
Exact stop mode	Single : G09, Continuous : G61
Dwell	G04, 0 ~ 9999.9999 sec
Skip	G31
Reference position return	1st reference : G28
	2nd reference : G30
	Ref. position check : G27
Thread synchronous cutting	
Thread cutting retract	
Variable lead thread cutting	
Multi / Continuous threading	
Feed function / Acc. & Dec. control	
Manual feed	Rapid traverse
	Jog : 0~2,000 mm/min (79 ipm)
	Manual handle : x1, x10, x100 pulses
	Reference position return
Cutting Feed command	Direct input F code
Feedrate override	0 ~ 200% (10% Unit)
Rapid traverse override	1%, F25%, 50%, 100%
Override cancel	
Feed per minute	G98
Feed per revolution	G99
Look-ahead block	1 block
Program input	
Tape Code	EIA / ISO
Optional block skip	1 ea
Absolute / Incremental program	G90 / G91
Program stop / end	M00, M01 / M02, M30
Maximum command unit	± 999.999.999 mm (± 99.999.9999 inch)
Plane selection	X-Y : G17 / Z-X : G18 / Y-Z : G19
Workpiece coordinate system	G52, G53, 6 pairs (G54 ~ G59)
Manual absolute	Fixed ON
Programmable data input	G10
Sub program call	10 folds nested
Custom macro	#100 ~ #199, #500 ~ #999
G code system	A
Programmable mirror image	G51.1, G50.1
G code preventing buffering	G4.1
Direct drawing dimension program	Including Chamfering / Corner R

Program input	
Multiple repetitive cycles Ⅰ, Ⅱ	
Canned cycle for turning	
Auxiliary function / Spindle speed function	
Auxiliary function	M 4 digit
Level-up M Code	High speed / Multi / Bypass M code
Spindle speed function	S 4 digit , Binary output
Spindle override	0% ~ 150% (10% Unit)
Multi position spindle orientation	M19 (S_ _ _)
Rigid tapping	
Constant surface speed control	G96, G97
Tool function / Tool compensation	
Tool function	T 2 digit + Offset 2 digit
Tool life management	
Tool offset pairs	128 pairs
Tool nose radius compensation	G40, G41, G42
Geometry / Wear compensation	
Direct input of offset measured B	
Editing function	
Part program storage size	1280m (512KB)
No. of registerable programs	1000 ea
Program protect	
Background editing	
Extended part program editing	Copy, move and change of NC program
Memory card program edit	
Data input / output & Interface	
I/O interface	RS 232C serial port, CF card, USB memory
	Embedded Ethernet interface
Screen hard copy	
External message	
External key input	
External workpiece number search	
Automatic data backup	
Setting, display and diagnosis	
Self-diagnosis function	
History display & Operation	Alarm & Operator message & Operation
Run hour / Parts count display	
Maintenance information	
Actual cutting feedrate display	
Display of spindle speed / T code	
Graphic display	
Operating monitor screen	Spindle / Servo load etc.
Power consumption monitoring	Spindle & Servo
Spindle / Servo setting screen	
Multi language display	Support 20 languages
Display language switching	Selection of 5 optional Languages
LCD Screen Saver	Screen saver
Unexpected disturbance torque	BST (Back spin torque limit)
Function for machine type	
Cs contour control (C & A axes)	Mill, MS, Y, SY, LF-Mill, TTMS, TTSY
Polar coordinate interpolation	Mill, MS, Y, SY, LF-Mill, TTMS, TTSY
Cylindrical interpolation	Mill, MS, Y, SY, LF-Mill, TTMS, TTSY
Canned cycle for drilling	Mill, MS, Y, SY, LF-Mill, TTMS, TTSY
Spindle orientation expansion	MS, SY TTS, TTMS, TTSY
Spindle synchronous control	MS, SY TTS, TTMS, TTSY
Torque control	MS, SY TTS, TTMS, TTSY
Y axis offset	Y, SY, TTSY
Arbitrary angular control	Y, SY, TTSY
Composite / Superimposed control	MS, SY TTS, TTMS, TTSY
Balance cutting	MS, SY TTS, TTMS, TTSY

Option	
Fast ethernet	Needed option board
Data server	Needed option board
Protection of data at 8 levels	
Tool offset pairs	200 pairs
Part program storage size	5120m (2MB)
Polygon turning (2 Spindles)	Mill, MS, Y, SY, LF-Mill, TTMS, TTSY
Helical interpolation	
Manual Guide i	Conversational auto program
Dynamic graphic display	

Figures in inch are converted from metric values.
The FANUC controller specifications are subject to change based on the policy of company CNC supplying.

CONTROLLER

FANUC 32i-B (KL6500AW | LV800RAW | LV800AW-TT)

[ ] : Option

Controlled axis / Display / Accuracy Compensation	
Control axes	2 axes (X, Z) / 3 axes (X, Z, C) / 4 axes (X, Z, Y, C)
	5 axes (X, Z, B, C, A) / 6 axes (X, Z, Y, B, C, A)
Simultaneously controlled axes	2 axes [Max. 4 axes]
Designation of spindle axes	4 axes (1 path), 6 axes (2 path Total)
Least setting Unit	X, Z, Y, B axes : 0.001 mm (0.0001 inch)
	C, A axes : 0.001 deg
Least input increment	X, Z, Y, B axes : 0.001 mm (0.0001 inch)
	C, A axes : 0.001 deg
Inch / Metric conversion	G20 / G21
High response vector control	
Interlock	All axes / Each axis
Machine lock	All axes
Backlash compensation	± 0 ~ 9999 pulses (Rapid traverse / Cutting feed)
Position switch	
LCD / MDI	10.4 inch color LCD
Feedback	Absolute motor feedback
Stored stroke check 1	Over travel
Stored stroke check 2, 3	
PMC axis control	
Operation	
Automatic operation (Memory)	
MDI operation	
DNC operation	Needed DNC software / CF card
Program restart	
Wrong operation prevention	
Program check function	Dry run, Program check
Single block	
Search function	Program Number / Sequence Number
Interpolation functions	
Nano interpolation	
Positioning	G00
Linear interpolation	G01
Circular interpolation	G02, G03
Exact stop mode	Single : G09, Continuous : G61
Dwell	G04, 0 ~ 9999.9999 sec
Skip	G31
Reference position return	1st reference : G28
	2nd reference : G30
	Ref. position check : G27
Thread synchronous cutting	
Thread cutting retract	
Variable lead thread cutting	
Multi / Continuous threading	
Feed function / Acc. & Dec. control	
Manual feed	Rapid traverse
	Jog : 0~2,000 mm/min (79 ipm)
	Manual handle : x1, x10, x100 pulses
	Reference position return
Cutting Feed command	Direct input F code
Feedrate override	0 ~ 200% (10% Unit)
Rapid traverse override	F1%, F25%, 50%, F100%
Override cancel	
Feed per minute	G98
Feed per revolution	G99
Look-ahead block	1 block
Program input	
Tape Code	EIA / ISO
Optional block skip	1 ea
Absolute / Incremental program	G90 / G91
Program stop / end	M00, M01 / M02, M30
Maximum command unit	± 999,999.999 mm (± 99,999.9999 inch)
Plane selection	X-Y : G17 / Z-X : G18 / Y-Z : G19
Workpiece coordinate system	G52, G53, 6 pairs (G54 ~ G59)
Manual absolute	Fixed ON
Programmable data input	G10
Sub program call	10 folds nested
Custom macro	#100 ~ #149, #500 ~ #549
G code system	A
Programmable mirror image	G51.1, G50.1
G code preventing buffering	G4.1
Multiple repetitive cycles Ⅰ, Ⅱ	

Program input	
Canned cycle for turning	
Manual Guide i (LV800AW-TT : Opt.)	Conversational auto program
Auxiliary function / Spindle speed function	
Auxiliary function	M 4 digit
Level-up M Code	High speed / Multi / Bypass M code
Spindle speed function	S 4 digit , Binary output
Spindle override	0% ~ 150% (10% Unit)
Multi position spindle orientation	M19
Rigid tapping	
Constant surface speed control	G96, G97
Tool function / Tool compensation	
Tool function	T 2 digit + Offset 2 digit
Tool life management	
Tool offset pairs	32 pairs
Tool nose radius compensation	G40, G41, G42
Geometry / Wear compensation	
Direct input of offset measured B	
Editing function	
Part program storage size	640m (256KB)
No. of registerable programs	500 ea
Program protect	
Background editing	
Extended part program editing	Copy, move and change of NC program
Memory card program edit	
Data input / output & Interface	
I/O interface	CF card, USB memory
	Embedded Ethernet interface
Screen hard copy	
External message	
External key input	
External workpiece number search	
Automatic data backup	
Setting, display and diagnosis	
Self-diagnosis function	
History display & Operation	Alarm & Operator message & Operation
Run hour / Parts count display	
Maintenance information	
Actual cutting feedrate display	
Display of spindle speed / T code	
Graphic display	
Operating monitor screen	Spindle / Servo load etc.
Power consumption monitoring	Spindle & Servo
Spindle / Servo setting screen	
Multi language display	Support 20 languages
Display language switching	Selection of 5 optional Languages
LCD Screen Saver	Screen saver
Unexpected disturbance torque	BST (Back spin torque limit)
Function for machine type	
Cs contour control (C & A axes)	Mill, MS, Y, SY, LF-Mill, TTMS, TTSY
Polar coordinate interpolation	Mill, MS, Y, SY, LF-Mill, TTMS, TTSY
Cylindrical interpolation	Mill, MS, Y, SY, LF-Mill, TTMS, TTSY
Canned cycle for drilling	Mill, MS, Y, SY, LF-Mill, TTMS, TTSY
Spindle orientation expansion	MS, SY TTS, TTMS, TTSY
Spindle synchronous control	MS, SY TTS, TTMS, TTSY
Torque control	MS, SY TTS, TTMS, TTSY
Y axis offset	Y, SY, TTSY
Arbitrary angular control	Y, SY, TTSY
Composite / Superimposed control	MS, SY TTS, TTMS, TTSY
Balance cutting	MS, SY TTS, TTMS, TTSY

Option	
Additional optional block skip	9 ea
Fast ethernet	Needed option board
Data server	Needed option board
Protection of data at 8 levels	
Tool offset pairs	64 pairs / 99 pairs / 200 pairs
Part program storage size	1280 m (512KB) / 2560m (1MB)
Polygon turning (2 Spindles)	Mill, MS, Y, SY, LF-Mill, TTMS, TTSY
Helical interpolation	
Dynamic graphic display	(LV800AW-TT : Std.)

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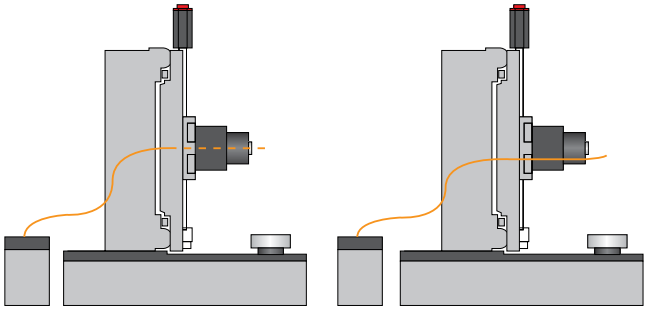
HYUNDAI WIA ECO SYSTEM

MQL (Minimal Quantity Lubrication)

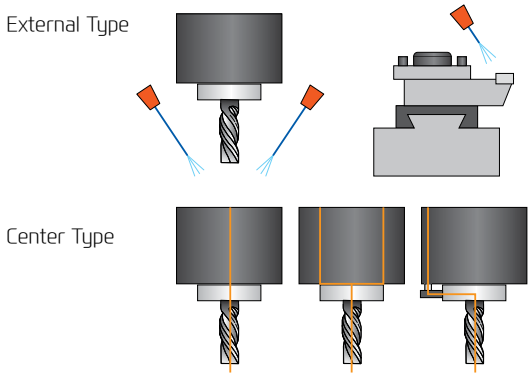
The goal of this system is to spray only the amount of lubricant required to prevent heat and chip build up at the cutting tool or work piece face.

Example of Machining Center Application



Center Type　　External Type

Example of Etc.



Oil Skimmer

An oil skimmer can increase coolant and tool life by removing tramp oil contaminants.

Mist Collector

Mist Collector reduces the amount of smoke and oil mist in the air. This helps build a safe and comfortable working environment and improve durability.

Lubrication System

By applying lubricant only when the machines axis are moving lubrication consumption is reduced by compared to standard systems.

HYUNDAI WIA ENERGY SAVING

HW-ESS (HYUNDAI WIA Energy Saving System)

HYUNDAI WIA Machine tool provides the optimum power saving function that can easily save energy with an intuitive user interface.

1. **Machine-ready power saving function** : Put all servo motors and other motors into sleep mode when no control or operation is done for a set time
2. **Work light auto-off function** : The work light is turned off automatically when no control or operation is done for a set time
3. **Chip conveyor auto power saving** : Operation/non operation time (timer) can be set to save energy
4. **Auto Power-off** : Auto power off after ending the an operation after a period of time
5. **Eco function** : Machine ready sleep mode can be activated/de-activated from the controller panel
6. **Power consumption monitor** : Real time power consumption can be monitored through the OP screen

LV800RAW Movie

LV800RAW 3D Movie

HYUNDAI WIA

YouTube HYUNDAI WIA MT

www.youtube.com/HYUNDAIWIAMT

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2022-10 002.009 ENG