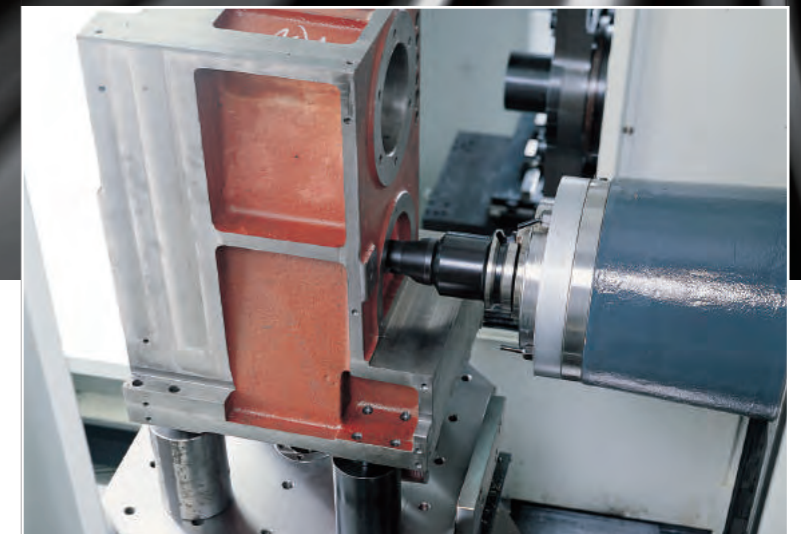




HORIZONTAL MACHINING CENTER



LH-500/630/800
HORIZONTAL MACHINING CENTER



Manufacturer



Litz Hitech Corp.
No. 18 Yu 9 Road, Tachia District,
Taichung City, Taiwan.
Tel: +886-4-2681-5711
Fax: +886-4-2681-5108
sales@litzhitech.com
www.litzhitech.com

Please visit the website for additional information.



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Production Bases



Main Sub-systems

Spindle system



Controller system



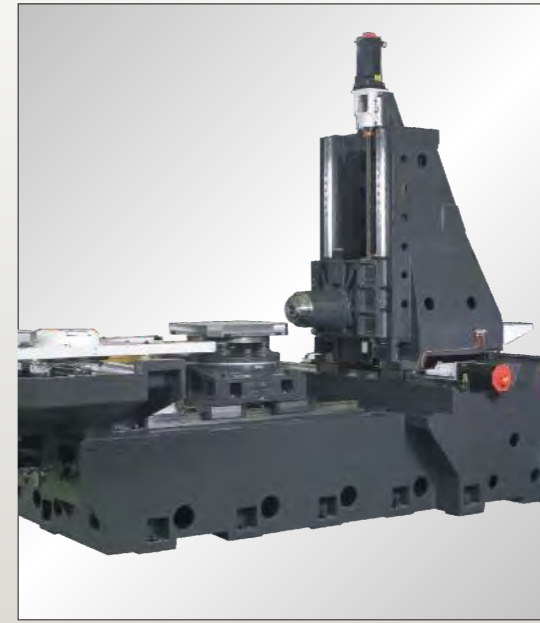
On-line measurement system



Thermal displacement control



Energy saving and carbon reduction



ATC system



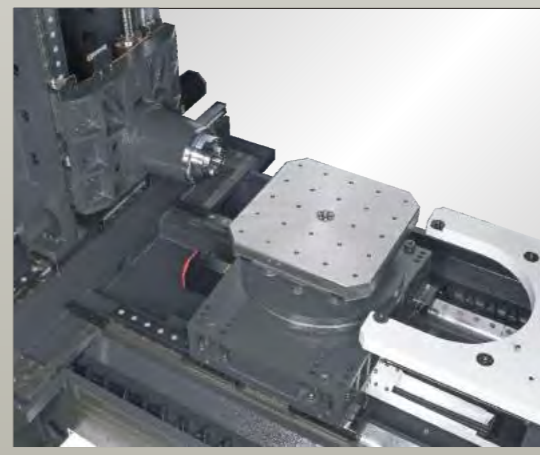
Maintenance and repair



Machining performance



High Precision



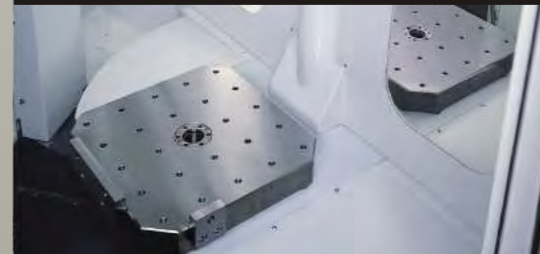
Process application



Chip removal system



APC worktable exchange



Mechanical Design

Robust and Precision Machine Bed

- The major construction parts are based on Meehanite cast iron which is structurally stable, ensuring machine quality permanently.
- The computerized calculation of structural strength and reinforcing ribs is carried out by way of finite element analysis, ensuring high rigidity of

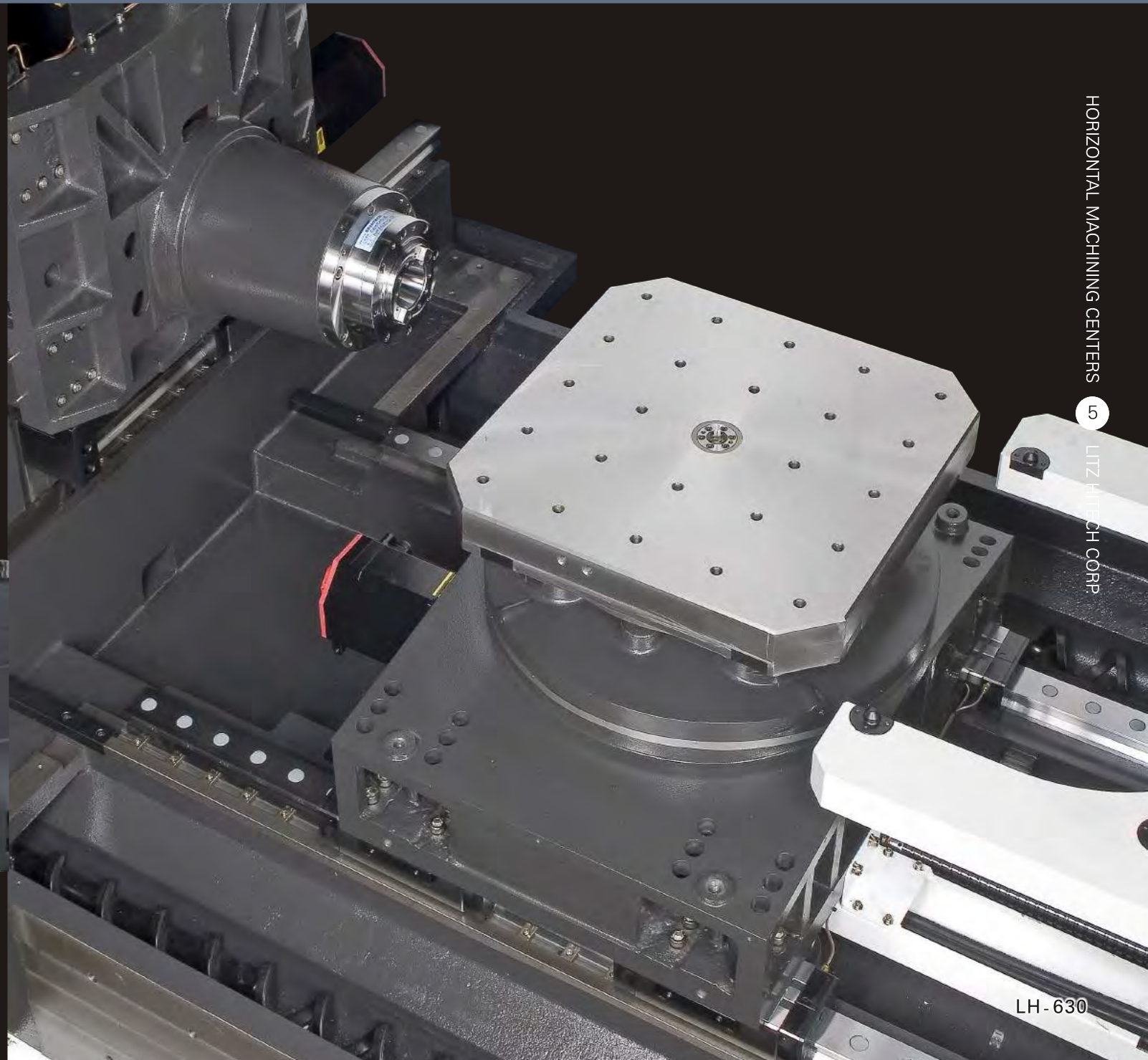
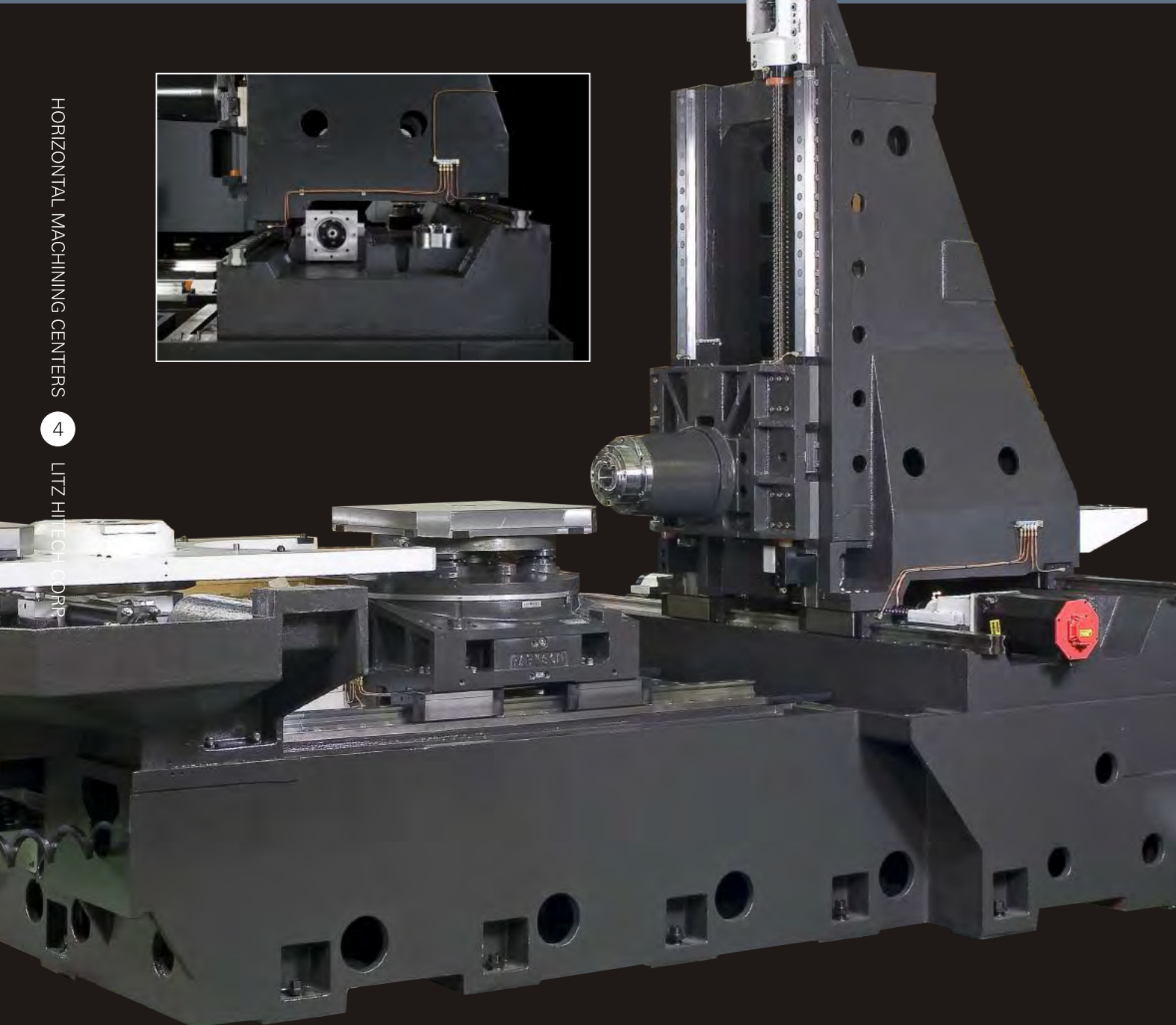
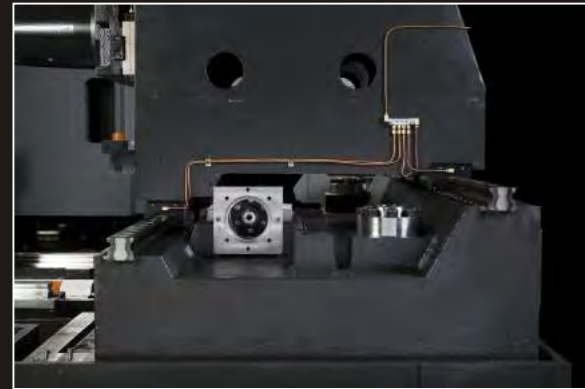
which is structurally

reinforcing ribs is carried out by way of finite element analysis, ensuring high rigidity of the machine.

Mechanical Rigidity

Unique rib construction

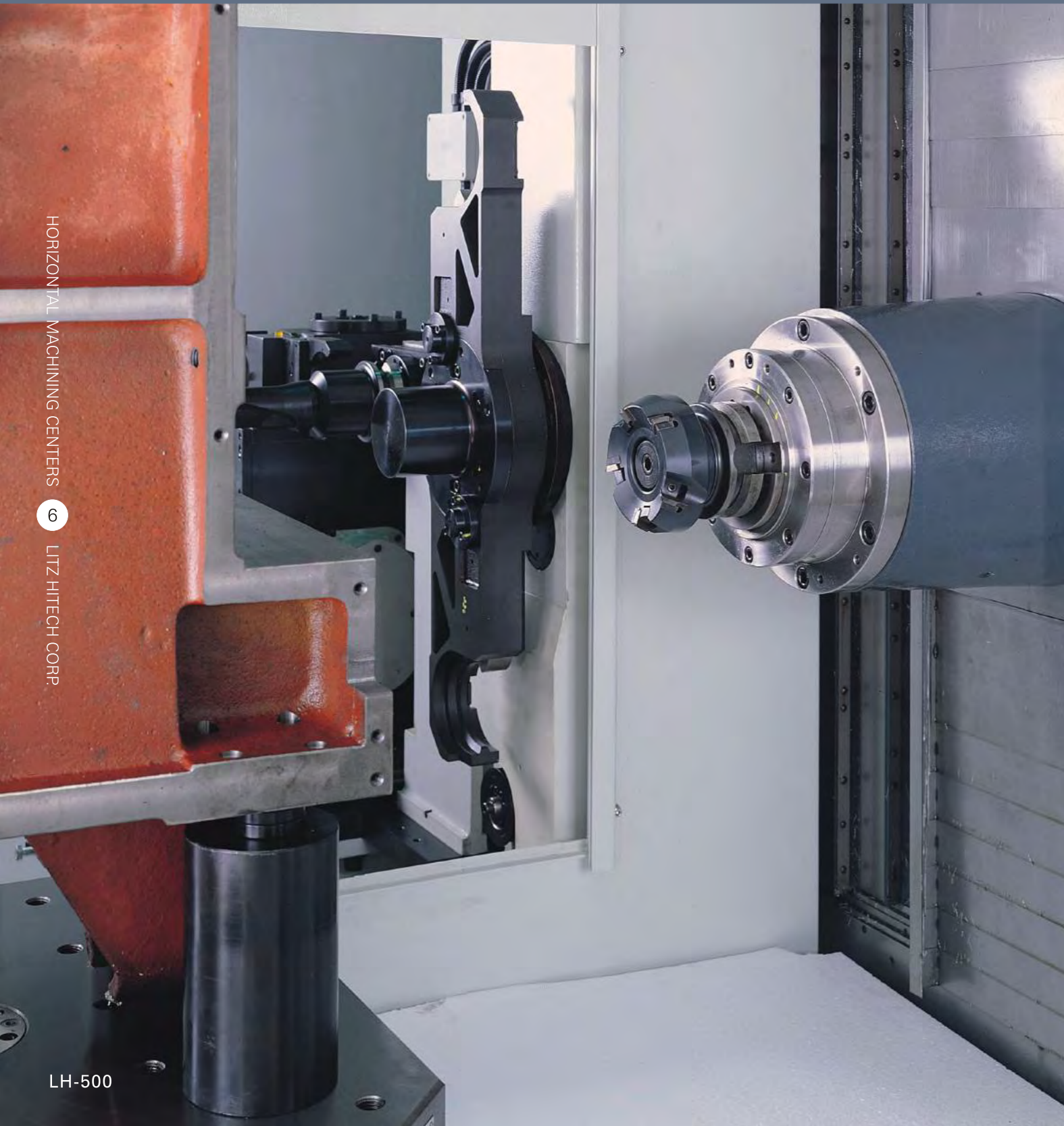
Wide base and robust structure ensure steady machining against heavy loads.



High speed mechanism

Shortens non-machining time substantially

The capability to shorten the time for spindle acceleration, deceleration, transmission and tool change is the key to high cutting efficiency. The LH Series shortens the overall process time by increasing the speed of key mechanisms.



Production efficiency

Gain extra profit by reducing non-machining time loss.



Chip Disposal

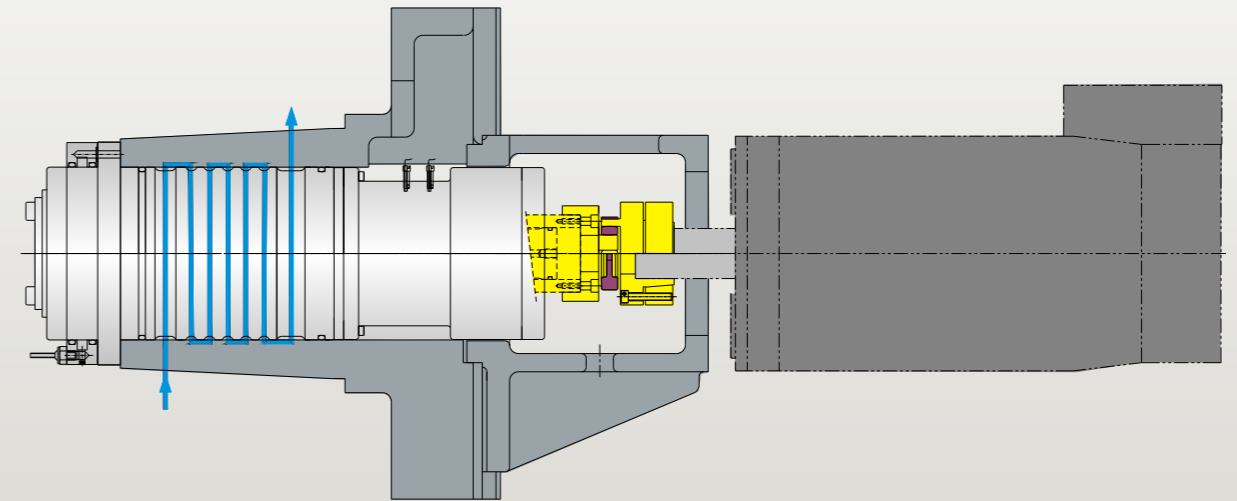
Increases machine utilization ratio substantially

The high efficiency chip disposal system completely solves the chip problems of the horizontal machine center; it not only increases machine utilization substantially but also avoids adversely affecting machining accuracy resulting from the cutting heat.



Spindle Transmission System

Unique IDD Spindle Transmission LH-500/LH-630A

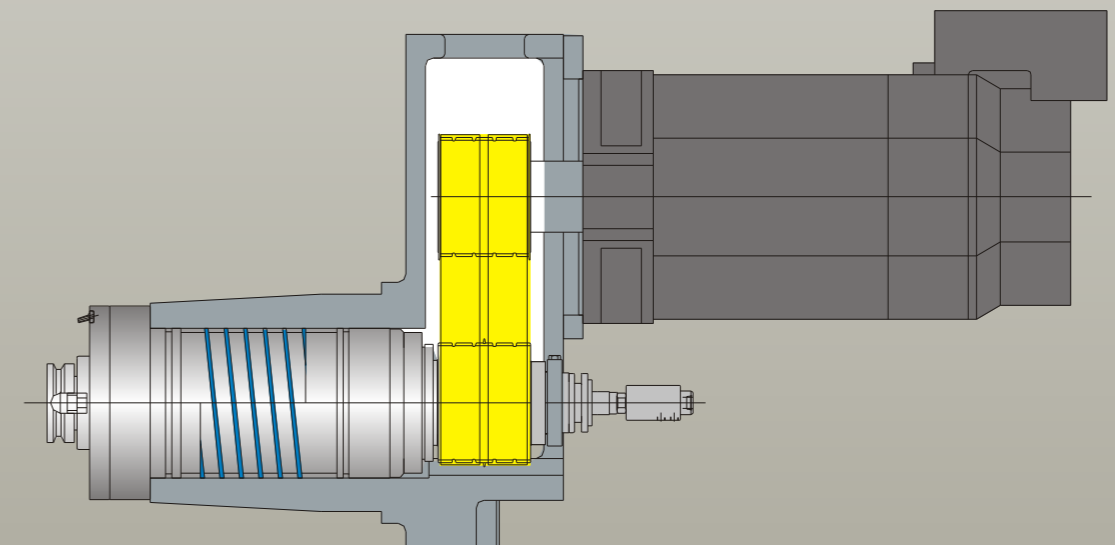


IDD the optimal heat isolation design

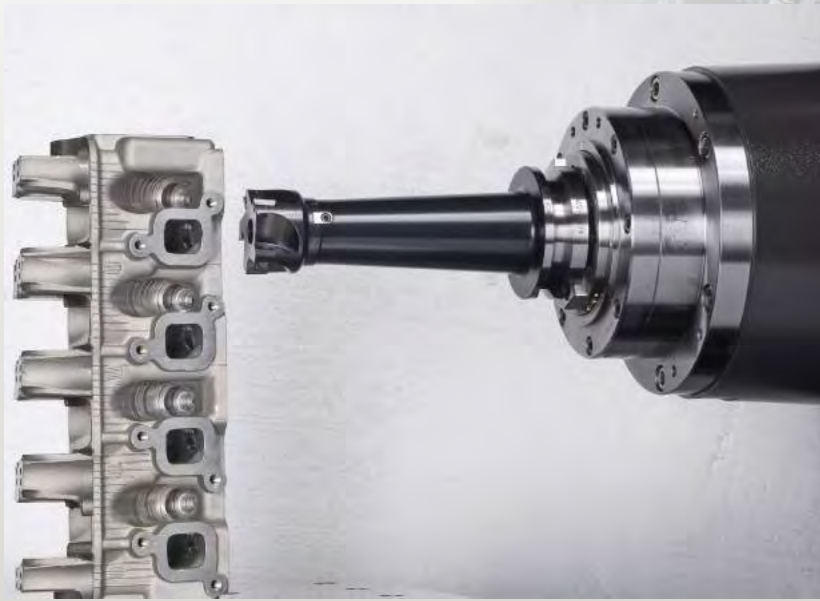
IDD (Isolated Direct Drive System)

- The spindle is free from thermal effect of main motor. Thermal displacement is reduced and the spindle accuracy and service life can be ensured.
- Thermal isolation coupling is designed between the motor and the spindle. Selecting application of the spindle oil cooling system for the entire spindle ensures increased spindle accuracy.
- The spindle is directly coupled to the motor. No more noise, backlash and vibration problems.
- The transmission efficiency is increased due to direct coupling. The high accuracy rigid tapping is achievable via direct rotation detection of the motor.

High-torque Belt Transmission System LH-630B/LH-800B

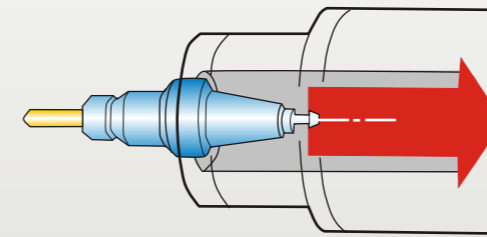


The Spindle Motor System



High performance FANUC spindle motors are provided with double windings, capable of both low-speed output and high-torque output; high-speed output and low-torque output. The motor has variable speed features. When operating at the highest ratio of 1:4 in gear box option, the torque output can be controlled by software via automatic speed-change of the spindle motor.

Spindle with quick reacting and high tool-pulling force



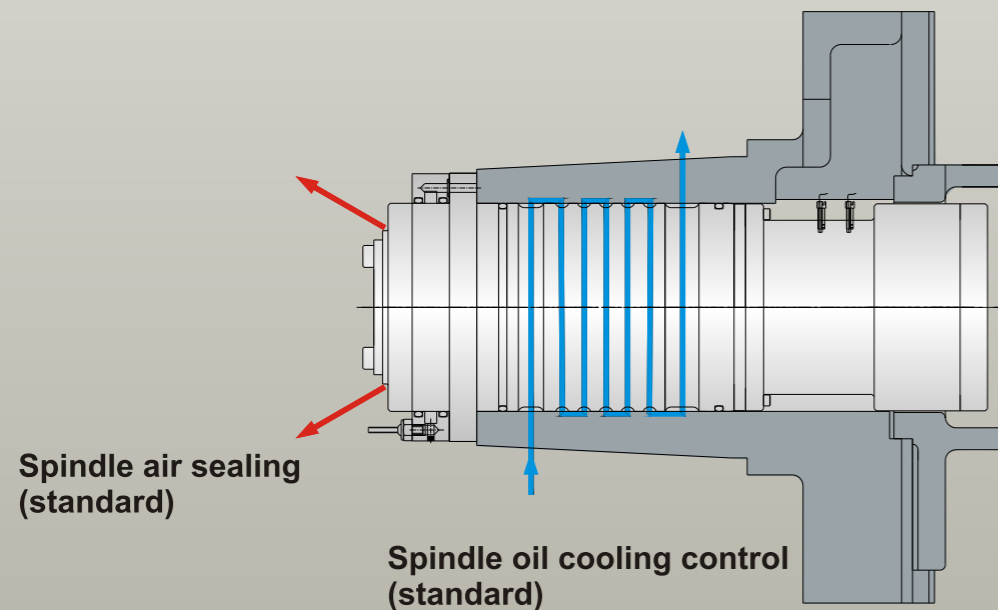
■ Spindle tool-pulling force
1800kgf (17000N)

■ Spindle with high tool-pulling force, providing tool clamping and high rigidity, enhancing machining rigidity.



■ The spindle only takes **1.7** seconds to accelerate from 0 to 6000RPM.
■ The spindle only takes **1.2** seconds to decelerate from 6000RPM to 0.

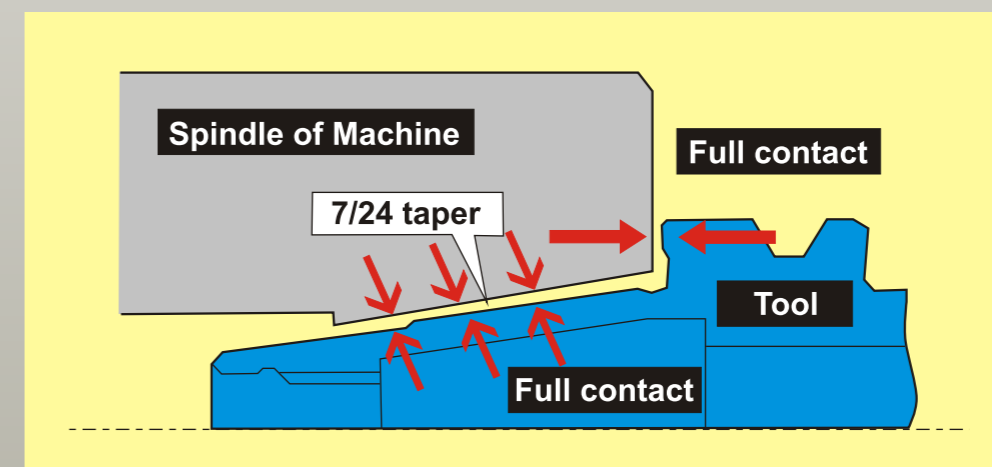
Spindle Dust-expelling Air Curtain System



- High speed spindle with spindle oil cooling system. This efficiently keeps a constant temperature in the spindle, meaning less thermal displacement of the spindle, ensuring high precision of the high-speed spindle.
- The spindle air curtain system prevents the vacuum pumping effect that sucks-in dust while the spindle is at very high speed. This ensures spindle precision and prolongs spindle service life.

Two-face restraint BT tool holder

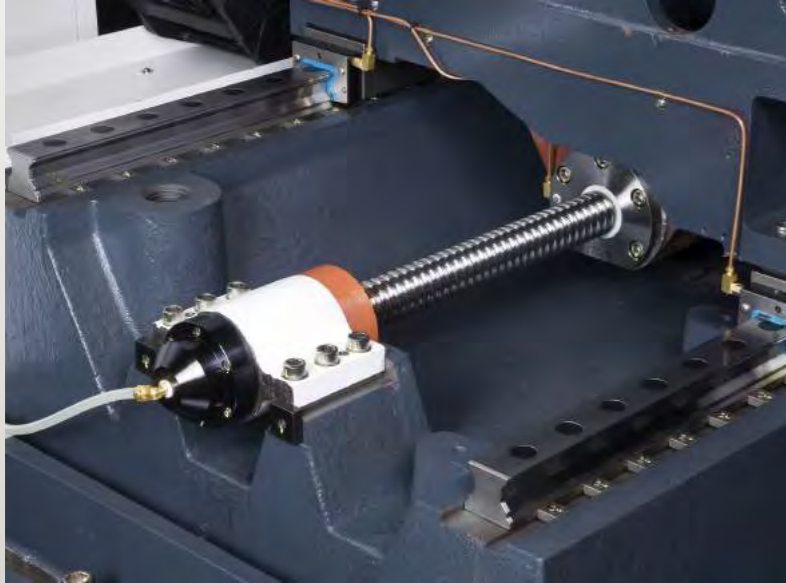
The spindle taper, 7/24 is used.



- Due to full contact between the Two-face restraint tool holder and the spindle, vibration is eliminated during the process, enhancing process precision and workpiece face precision.
- End face of spindle will not expand under high rpm operation.
- Two-face restraint tool holder offers high precision installation and high cutting capability.

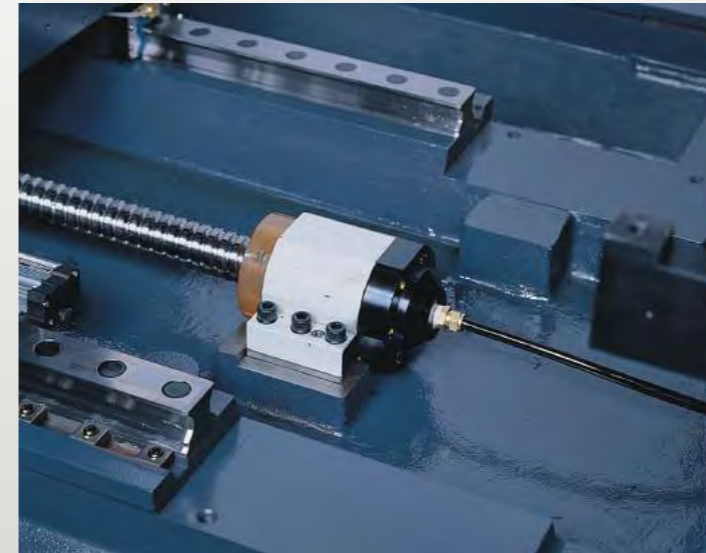
Three-Axis Transmission System

3-Axis Ballscrew system

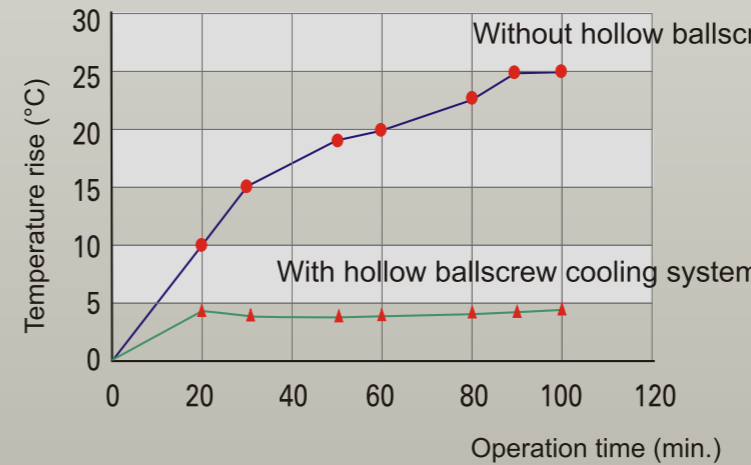


- The 3-Axis ballscrew employs large diameter ballscrew to enhance transmission rigidity, ensuring repetitivity and precise positioning.
- X/Y/Z axis rapid speed
36 m/min (LH-500)
32 m/min (LH-630/800)
- Synchronized telescopic covers are provided for all 3 axes, eliminating transmission noise and vibration.

Ballscrew Cooling System



Cooling efficiency of hollow ballscrew

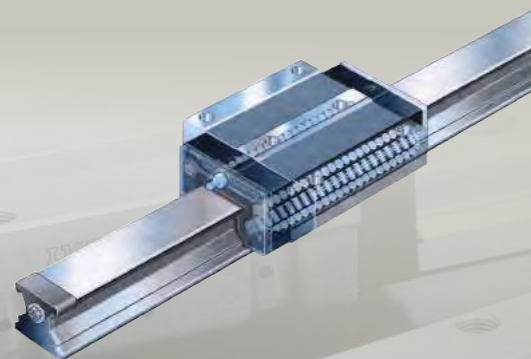


Test conditions

| Ball screw Dia. (mm) | RPM | Temperature control of cooling oil (°C) | Coolant flow rate L/min |
|----------------------|------|---|-------------------------|
| Ø50xP12 | 1000 | 20 | 2.5 |

- The transmission ballscrew is of hollow design. The coolant oil automatically circulates through the ballscrew, eliminating heat generation and thermal expansion during high speed rotation, so as to accomplish high-speed and high precision machining.

High-speed High-precision Linear Guide Way



Roller linear Guide Way

- Roller linear guide ways with zero backlash ensure consistent cutting surface on curve or slope cutting.
- Suitable for high speed travel and the drive power requirement is significantly reduced.
- By using rolling contact instead of sliding contact, linear guide reduces friction loss, reacts quickly, and increases positioning accuracy.
- The loading capacity is high in multiple directions. Multiple contact points are maintained when machining, and cutting rigidity can be ensured.
- Easy to assemble, interchangeable, with a simple structure for easy lubrication.
- Long service life is guaranteed by the extremely low friction loss in the linear guide way.

Oil-coolant separation design

Oil-coolant separation design of machine



- The machine is of oil-water separation design, ensuring separation of lubricant from coolant, preventing deterioration of the coolant resulting from mixing with lubricant, thereby ensuring process quality.



- The separated cutting fluid is recycled into tank for re-use. The lubricant is centrally collected for disposal to meet environmental requirements.

Collision prevention device



- In case of mechanical anomaly or operator negligence, the built-in collision prevention device is capable of absorbing the impact of collision, minimizing the impairment as well as maintaining the intended precision.

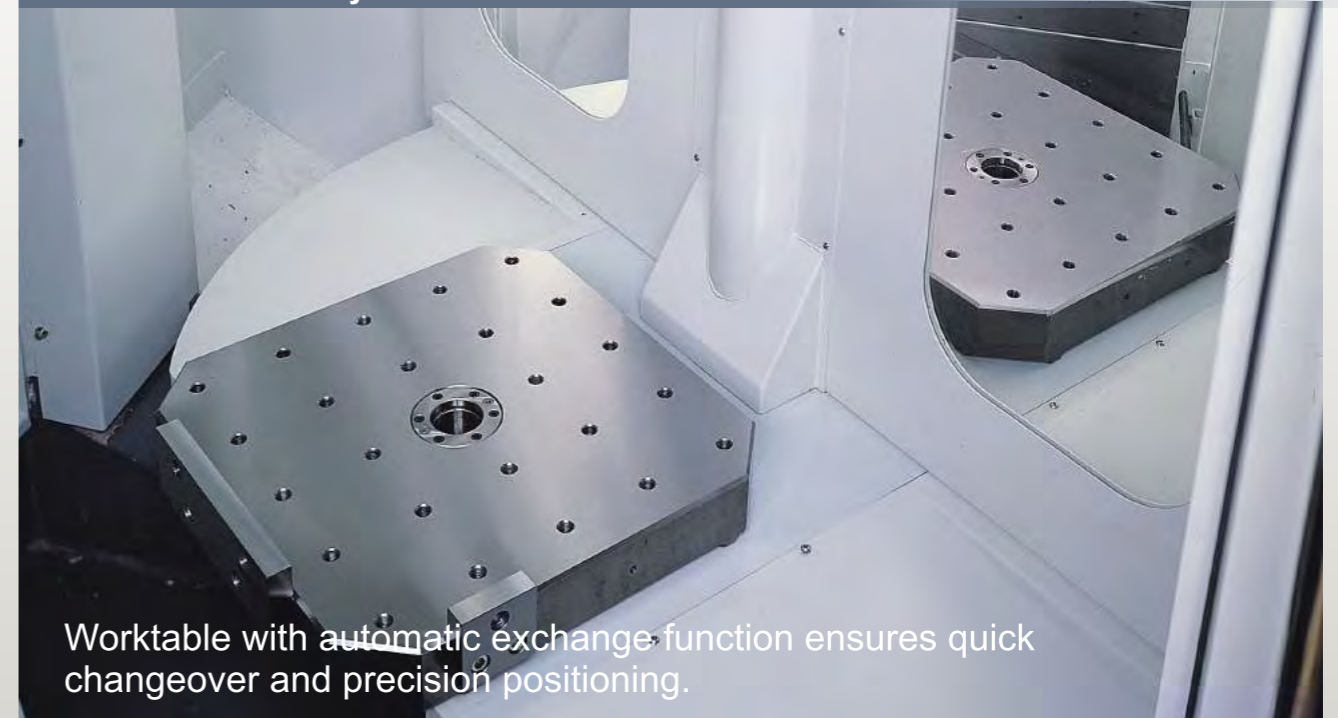
Direct-coupled transmission



- Direct-coupled transmission with motor and precision high-speed ballscrew.
- Pre-tension device increases rigidity of ballscrew, lowers thermal displacement and escalates precision.
- Hollow ballscrew cooling design is devised in the transmission system, significantly lowering thermal displacement resulting from high-speed rotation, and suitable for machining high-precision parts.
- C3 Class large diameter ballscrew with pre-load design ensures high rigidity and excellent precision.

APC · Worktable

Bi-directional rotary APC



Worktable with automatic exchange function ensures quick changeover and precision positioning.

Worktable



Minimum division of worktable:
1° (standard)

Minimum division of worktable:
0.001° (optional)



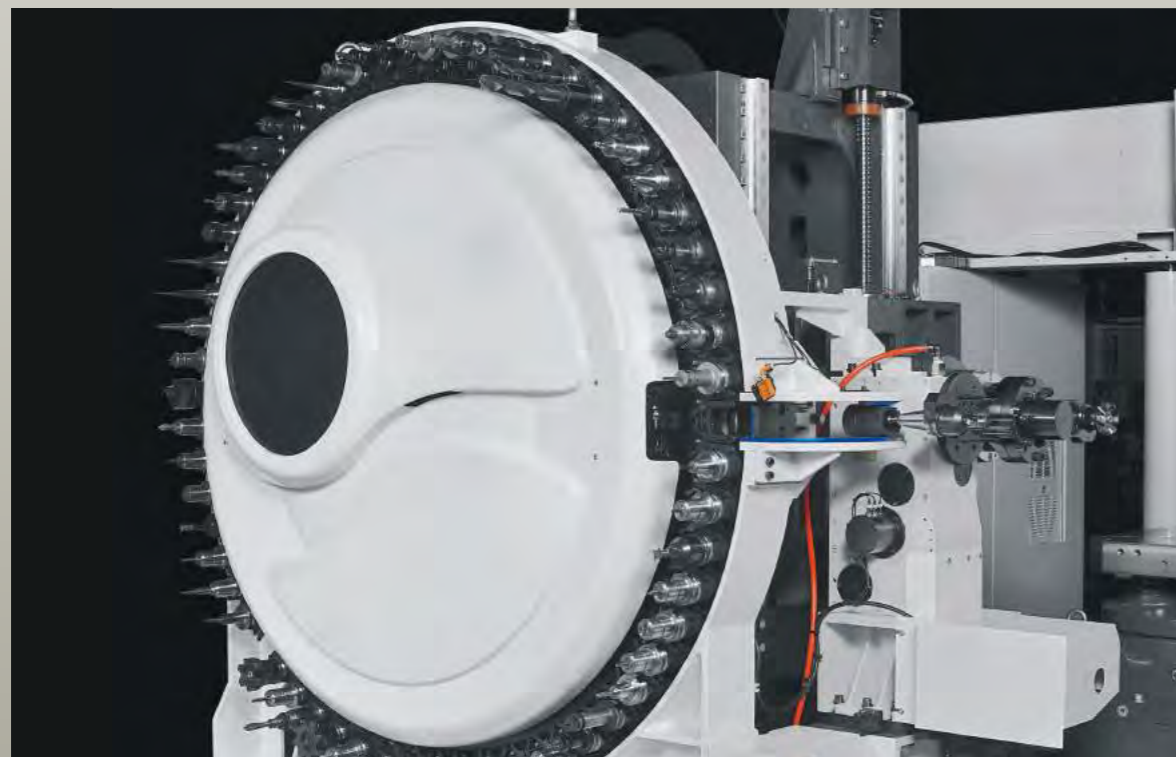
Stand-by worktable can be arbitrarily rotated manually **0° ~ 90°**.

Tool Change System and Magazine

LH-500

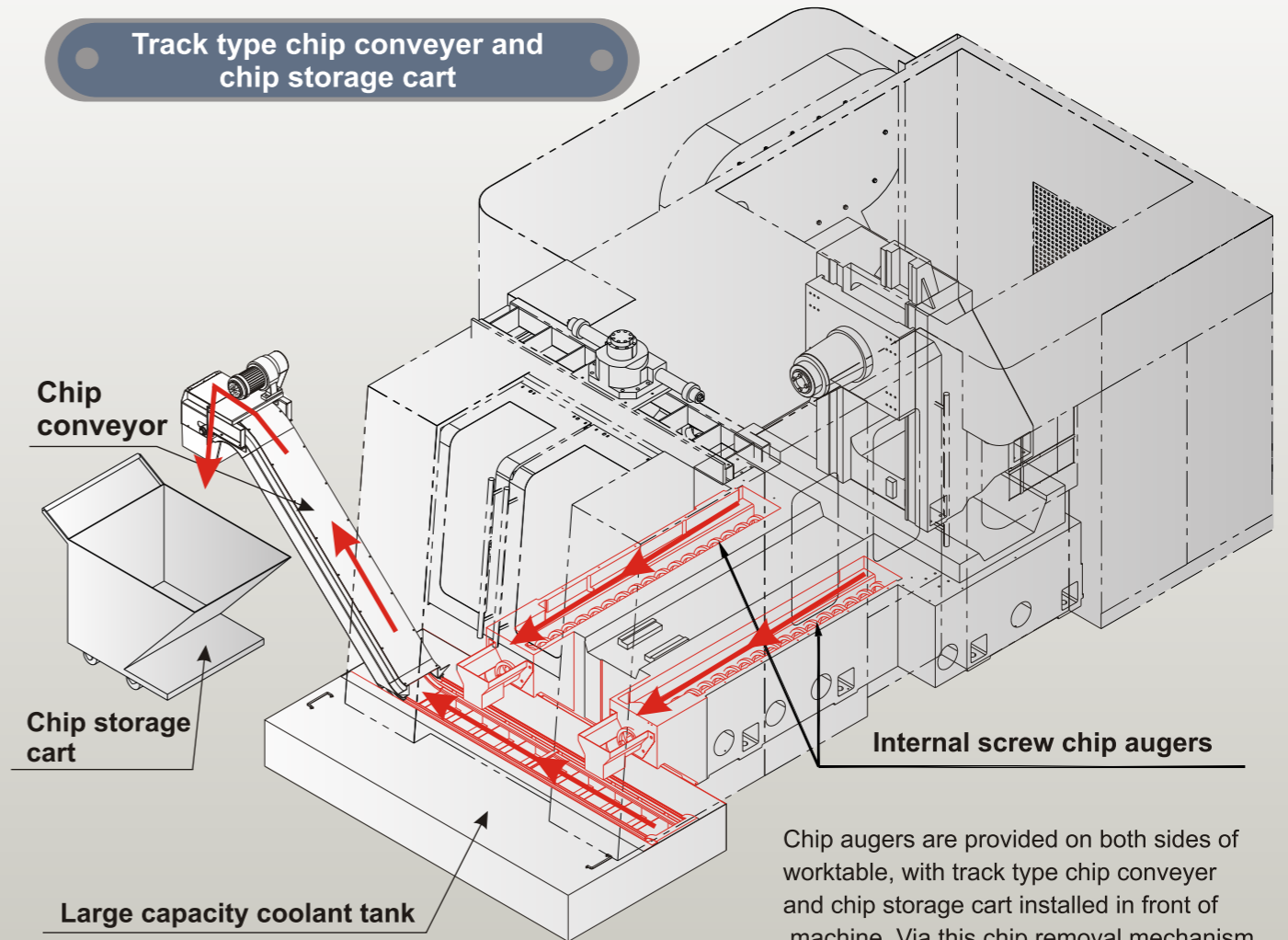


- Fast, simple, reliable and long service life tool changer system provides stable and reliable tool change operation.
- The unique tool change system adopts an advanced cam drive device. Tool selection can be done quickly using the PLC program from any tool position.
- The ATC system passed 1,000,000 endurance tests to meet reliability requirements.
- The cam drive device of the magazine ensures precision rotation, ensuring smooth operation of the magazine even in heavy tool operation.



Chip Removal System





Track type chip conveyer and chip storage cart



Chip augers are provided on both sides of worktable, with track type chip conveyer and chip storage cart installed in front of machine. Via this chip removal mechanism, large amount of metal chips can be handled.

Selection of track type chip conveyer device

● : Excellent result ○ : OK X : Inferior result

| Material | | Steel | Cast iron | Al / colored metal | Mixed chips |
|--------------------------|------------|---|---|---|---|
| Shape of chips | |  |  |  |  |
| Internal chip remover | Screw type | ○ | ○ (Dry cutting) | ○ | ○ |
| Track type chip conveyer | Scrap type | × | ● | × | ○ |
| | Chain-type | ● | ○ | × | ○ |

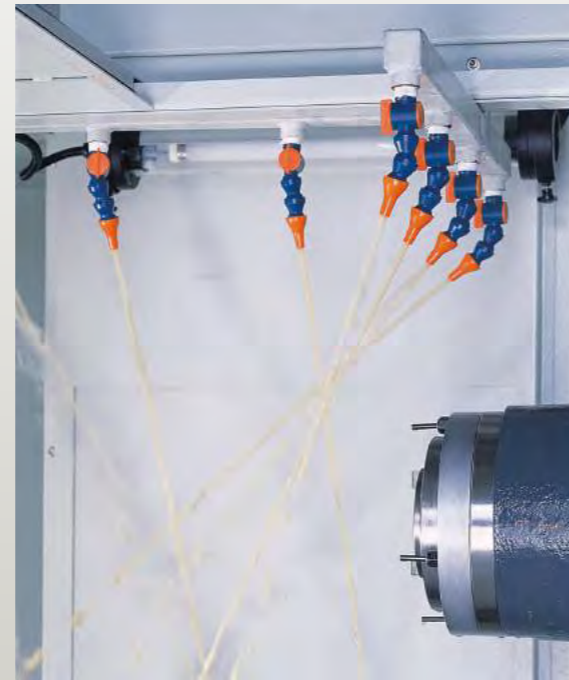
Chip wash-down system

Coolant tank and disc-type and oil separation



- Disc-type oil separator is easy to install and saves space.
- Disk-type oil separator enables effective separation of floating oil in the coolant tank, ensuring quality and prolonged service life of the coolant, therefore, the quality of the process is improved.

Internal coolant/wash down device



- Coolant is sprayed from nozzles above the hood, preventing accumulation of chips.

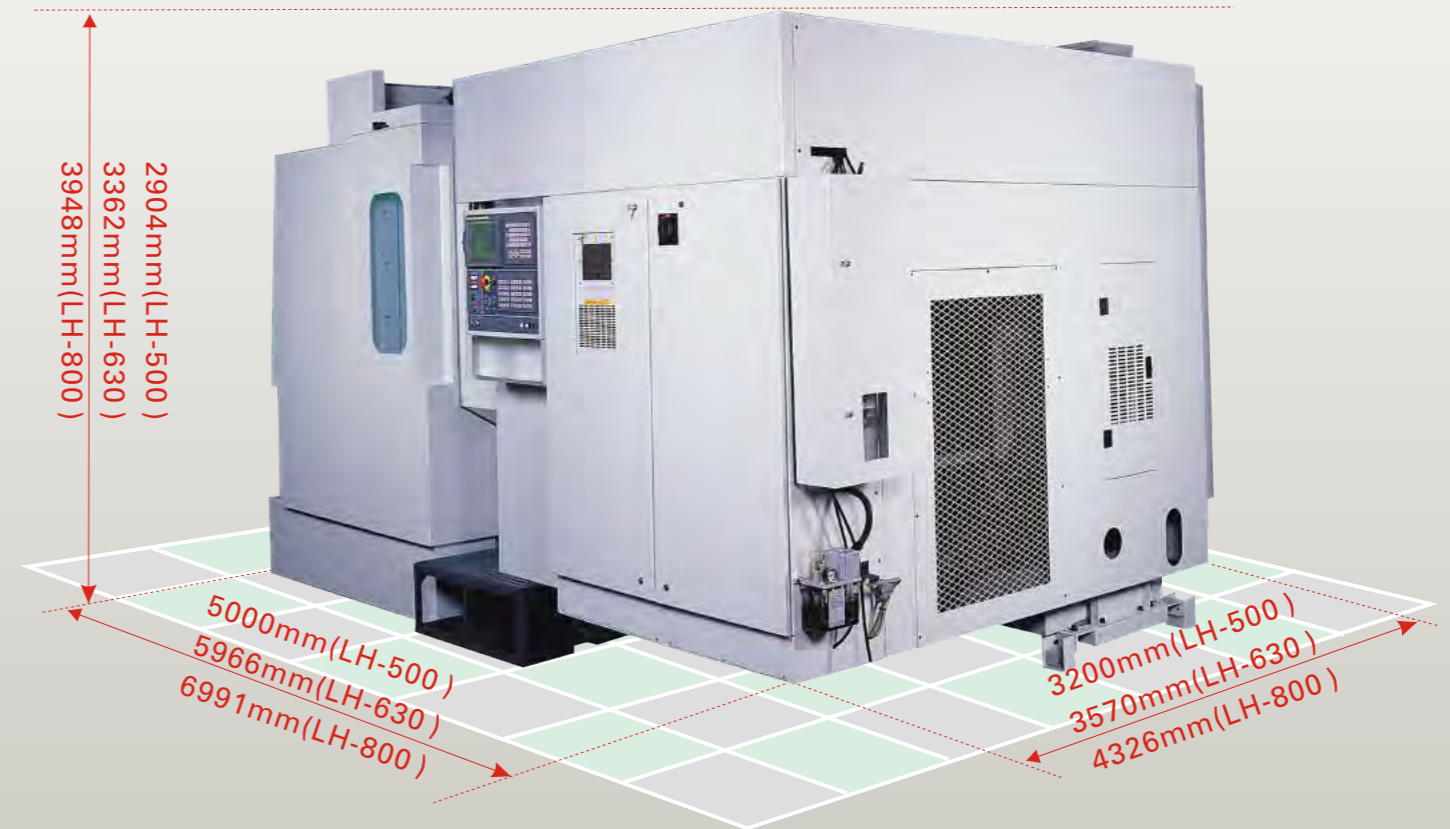
Coolant Spray Gun



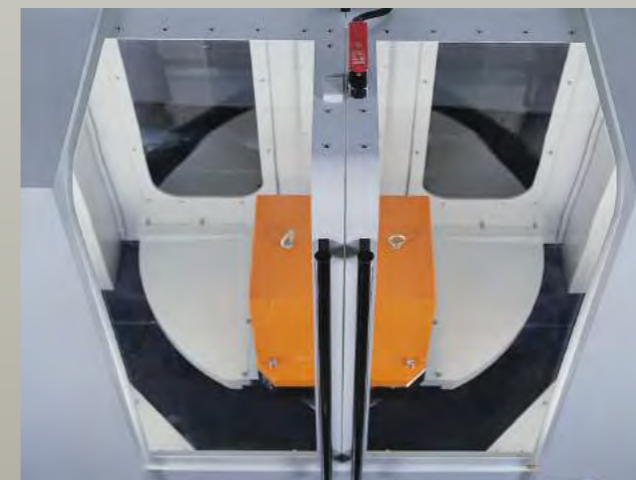
- Spray gun for easy and prompt cleaning of the machine, removes and cleans remaining chips that stick and adhere to the machine, maintaining the machine in a clean and tidy condition.

Minimal floor area requirement

Compact machine design ensures minimal floor area, making the best use of limited space.



Excellent front door transparency



Excellent operation door transparency



Front door and operation door of the machine comprise wide spread acrylic / safety glass with high transparency accompanied with high luminance fluorescent lights for convenient surveillance over the operation.

Maintenance Performance

In order to shorten the non-processing maintenance time, the machine allows quick and easy maintenance to take place at all positions.

Magazine Access Door for easy maintenance



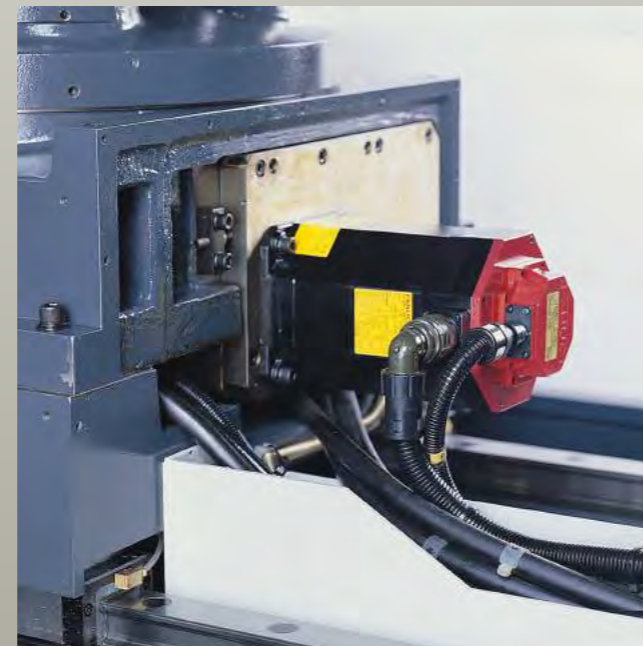
Centralized cables and pipelines (hydraulic system)



Access Door for easy maintenance

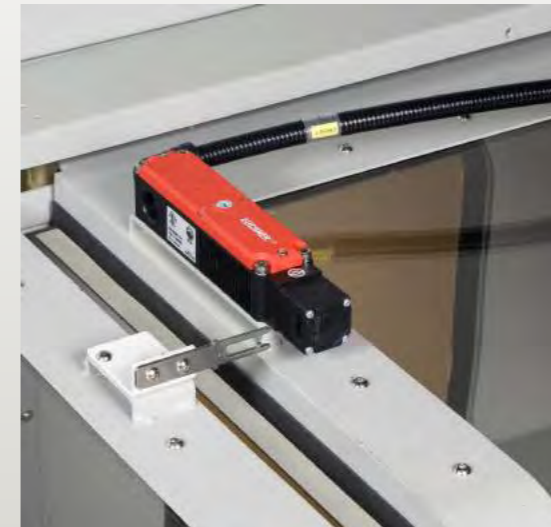


Centralized accessories of Automatic Pallet Changer



Safety System

Safety Door Interlock



- When the door remains open, the programmed operation will not start, ensuring safety of the operator.
- For the safety of the operator, opening the door during machining will stop the program.

Warning Light



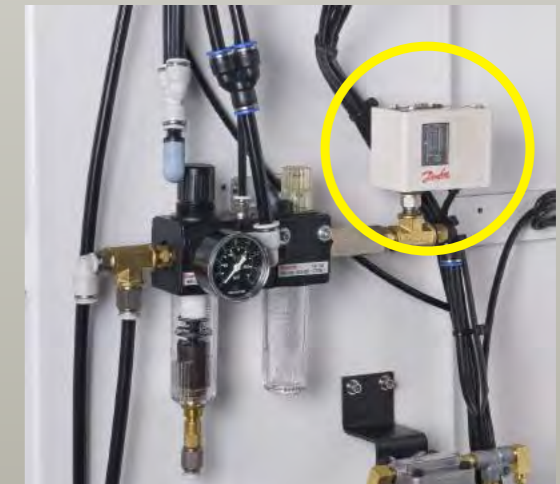
- On completion of a processing program, the yellow warning light will flash, notifying the operator to unload/load the workpiece.
- In the event of machine anomaly which causes an alarm message, the red light will flash; emergency troubleshooting is therefore required.

Buzzer alarm



- In case of anomaly during the process that gives a warning message, the buzzer will beep, informing the operator that emergency troubleshooting is required.

Low-air-pressure Indicator



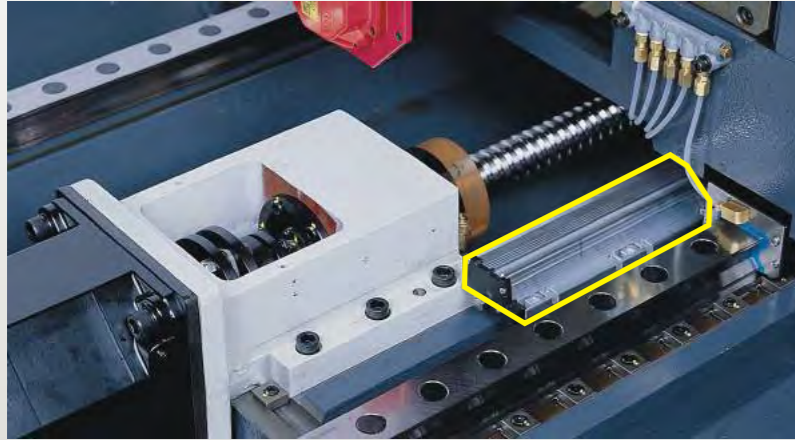
- When the pressure of the compressed air system becomes lower than the setting value, the pressure detector will deliver an air-system anomaly signal to the system controller, with an alarm message indicated.

High precision



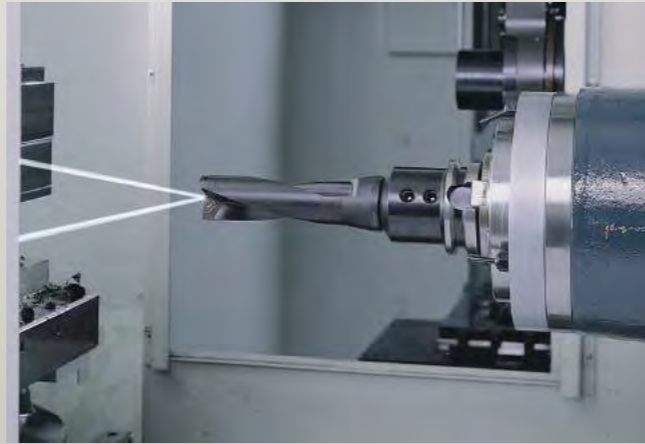
High Performance Accessories

Optical linear Scale **OP**



- Optical linear scale System can be added to X/Y/Z- Axes, for feeding back signal of thermal displacement caused by high-speed movement of machine, so that compensation can be made by the controller accordingly. This is suitable for processing high-precision parts.
- Optical Scale is provided with air protection device to prevent any damage by dust or oil, so as to ensure accuracy and prolonged service life of the Optical Linear Scale.

Coolant through spindle **OP**



- Coolant through spindle and sprays from tool nose, directly cools down the workpiece and carries heat away from tool blade, ensuring quality of the process. Especially suitable for deep hole drilling.

Splash ring of Spindle



- 4 splash nozzles are allocated around the spindle, ensuring the best cooling effect of the tool and workpiece, and achieving quality processing.



On-line Measurement System

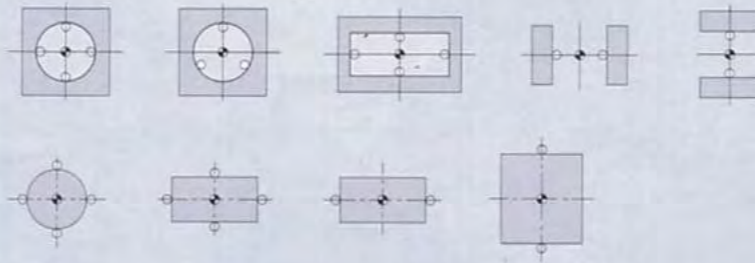
Workpiece Measurement System **OP**

- RENISHAW RMP60 is used.
- Automatic center measurement and automatic measuring point.
- Automatic Measurement Applications are shown in the following illustrations.

Automatic Measurement Applications

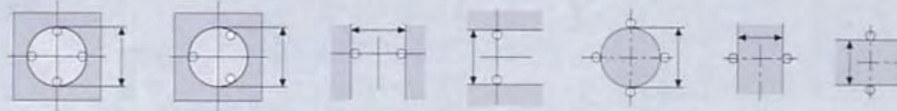
■ Setting the Origin

Automatic setting of origin of working coordinates



■ Measuring

Measuring workpiece dimensions

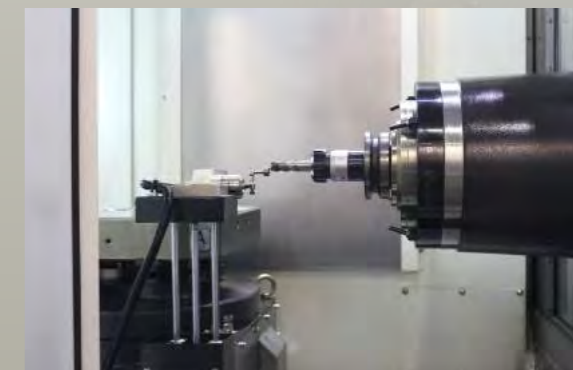


Tool length measuring system **OP**

- RENISHAW NC4S is used.
- Automatic tool detection and tool breakage detection.
- Automatic Measurement applications are shown as follows:



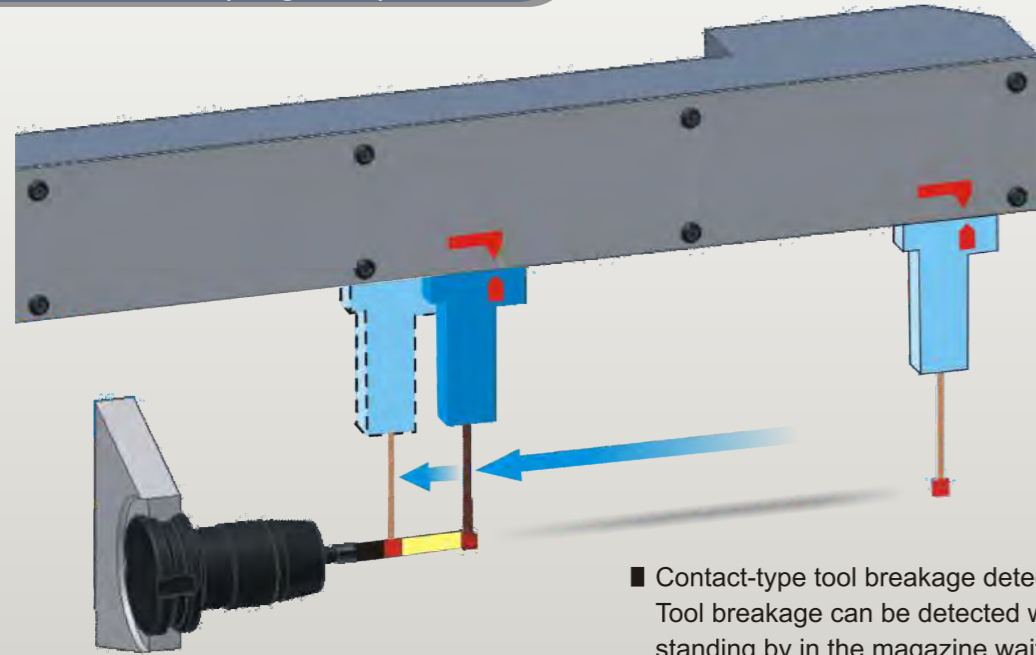
- **Tool Measuring**
Automatic tool length measurement.



- **Tool breakage detection**
Prevents further damage, automatic detection of Tool Breakage.

Automatic Tool Breakage Detection

Automatic Tool Breakage Detection (magazine) **OP**



- Contact-type tool breakage detection system. Tool breakage can be detected when the tool is standing by in the magazine waiting to be changed. When tool breakage is detected, the control system issues a message to prevent any damage to subsequent process engineering.
- Tool measurement and tool breakage can be performed within the magazine, therefore not impeding the processing time.

Lower Power Consumption



- **Indoor light OFF function**
Indoor lighting will be shut off automatically when the touch screen has been left inoperative for a set duration. This helps to save energy and prolong lifespan of the lamp.
- **Power OFF function**
Power to the servomotor, spindle motor, coolant pump, chip conveyor will be shut off when the keypad and the controller have remained inoperative for a set duration, so as to minimize power consumption.
- **Lubrication System OFF function**
When the 3-axis guideway has remained inoperative for a set duration, the automatic lubrication system will be shut off automatically, to save use of lube oil.
- **Display OFF function**
The display will be shut off automatically when the control panel has been left untouched for a set duration, to save power consumption and prolong lifespan of the display.

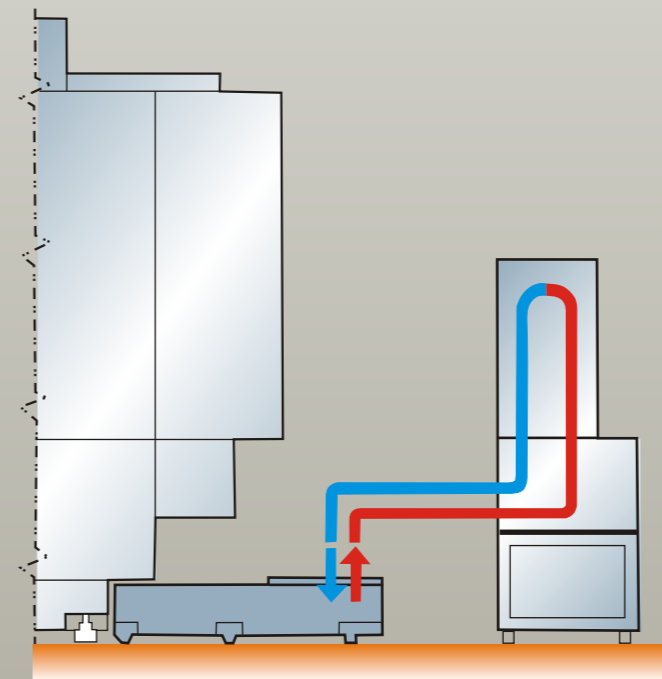
Oil Mist Collector System

Oil Mist Collector System **OP**

- The fully enclosed sheet-metal hood and mist collector effectively collect the particles and mist produced by machining, so that the operator can be protected from inhaling harmful substances that risk harming the health.
- When producing high-precision parts in an enclosed space or clean room, the Mist Collector ensures effective control of air quality to meet green technology requirements.



Coolant cooling system **OP**



- Coolant cooling system offers control of heat generated by prolonged processing, ensuring machining precision.



Humanized Man-Machine Interface



Convenient Operation

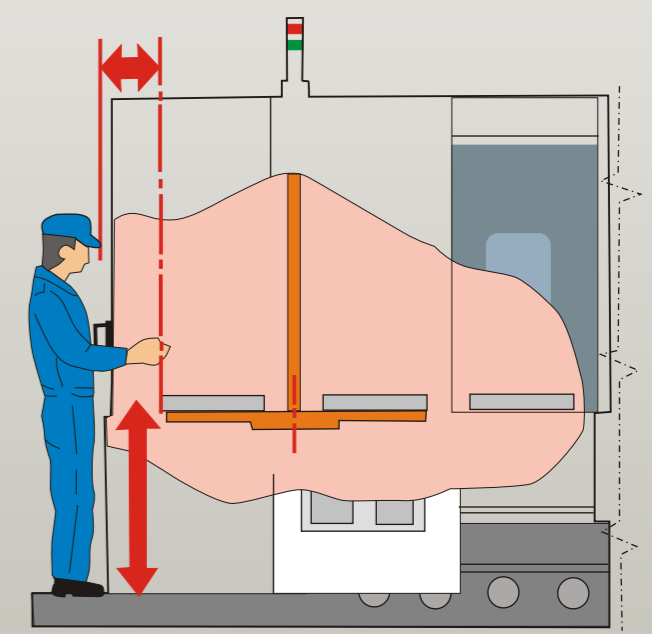


Operation System Corresponding the New Generation

- FANUC 10.4"LCD Color Monitor
- Pushbutton type operation panel developed by LITZ, for easy and prompt input.
- Protection covers are provided for critical keys on the panel, for a reconfirmed execution to prevent any mistake.

Access Distance

- Distance to Worktable
- 270mm** (LH-500)
 - 360mm** (LH-630)
 - 402mm** (LH-800)
- Height of Worktable
- 878mm** (LH-500)
 - 993mm** (LH-630)
 - 988mm** (LH-800)



■ Shortens distance between operator and worktable.



Width of door opening

- 822mm** (LH-500)
- 1200mm** (LH-630)
- 1330mm** (LH-800)

■ Wide door opening design facilitates loading/unloading of workpiece and jigs.

Controller Specifications

| | | Name | 0iMF | 31i-B |
|----|--------|--|----------|-------|
| 1 | J664 | Retraction for Rigid tapping | ✓ | ✓ |
| 2 | J665 | AI contour control I (40 Block) | ✓ | |
| 3 | J674 | Power Mate CNC Manager | ✓ | ✓ |
| 4 | J718 | Unexpected disturbance torque detection function | ✓ | ✓ |
| 5 | J801 | Controllable axes expansion | ✓ | ✓ |
| 6 | J802#n | Max. controlled axes | ✓ | ✓ |
| 7 | J803 | Simultaneously controlled axes expansion | ✓ | ✓ |
| 8 | J804 | Axis control by PMC | ✓ 4 Axis | ✓ |
| 9 | J805 | Increment system C | ✓ | |
| 10 | J806 | Linear acc/dec after cutting feed interpolation | ✓ | ✓ |
| 11 | J808 | Automatic corner deceleration | ✓ | |
| 12 | J807 | Control axis detach | ✓ | ✓ |
| 13 | J818 | Polar coordinate command (G15/G16) | ✓ | ✓ |
| 14 | J819 | Helical interpolation (G02.1/G03.1) | ✓ | ✓ |
| 15 | J822 | Index table indexing | ✓ | ✓ |
| 16 | J824 | Thread cutting ,synchronous cutting (G33) | ✓ | ✓ |
| 17 | J828 | Rigid tap (G84) | ✓ | ✓ |
| 18 | J829 | Bell-shaped acceleration/deceleration after cutting feed interpolation | | ✓ |
| 19 | J830 | 3rd/4th reference position return | ✓ | ✓ |
| 20 | J835 | Manual handle feed 1-unit | ✓ | ✓ |
| 21 | J838 | Program restart | ✓ | ✓ |
| 22 | J841 | Stored pitch error compensation | ✓ | ✓ |
| 23 | J846 | Position switch | ✓ | ✓ |
| 24 | J848 | High-speed skip | | ✓ |
| 25 | J850 | Spindle serial output | ✓ | ✓ |
| 26 | J853 | Spindle orientation | ✓ | ✓ |
| 27 | J854 | Spindle output switching function | ✓ | ✓ |
| 28 | J872 | Programmable data input | ✓ | ✓ |
| 29 | J873 | Custom macro B | ✓ | ✓ |
| 30 | J876 | Inch/Metric conversion (G20/G21) | ✓ | ✓ |
| 31 | J884 | Pattern data input | ✓ | ✓ |
| 32 | J887 | Addition of custom macro common variables | ✓ | ✓ |

| | | Name | 0iMF | 31i-B |
|----|------|--|---------|----------|
| 33 | J888 | Macro executor | ✓ | |
| 34 | J890 | Canned cycle for drilling | ✓ | ✓ |
| 35 | J891 | Canned cycle for drilling | ✓ | ✓ |
| 36 | J893 | Coordinate system rotation (G68/G69) | ✓ | ✓ |
| 37 | J894 | Workpiece coordinate system (G52-G59) | ✓ | ✓ |
| 38 | J895 | Addition of workpiece coordinate system 48-pairs | ✓ | ✓ |
| 39 | J900 | RS232C interface Channel 1 | ✓ | ✓ |
| 40 | J913 | External data input | ✓ | ✓ |
| 41 | J917 | Workpiece coordinate system preset | ✓ | ✓ |
| 42 | J923 | Reference point shift (G28/G30) | ✓ | ✓ |
| 43 | J927 | Tool offset | ✓ (400) | ✓ (200) |
| 44 | J930 | Tool radius- Tool nose radius compensation | ✓ | ✓ |
| 45 | J932 | Automatic tool length measurement (G37) | ✓ | |
| 46 | J933 | Direct input of tool offset value measured | ✓ | ✓ |
| 47 | J937 | Tool offset memory C | ✓ | ✓ |
| 48 | J946 | Part program storage length 1280m(512KB) | ✓ | ✓ |
| 49 | J947 | Part program storage size (1Mbyte) | | ✓ |
| 50 | J953 | Number of registerable programs expansion 1 | | ✓ |
| 51 | J956 | Background editing | ✓ (400) | ✓ (1000) |
| 52 | J957 | Extended part program editing | ✓ | ✓ |
| 53 | J960 | Software operator's panel | ✓ | ✓ |
| 54 | J961 | Software operator's panel general purpose switch | ✓ | ✓ |
| 55 | R616 | Tool management expansion B | ✓ | |
| 56 | J971 | Run hour and parts count display | ✓ | ✓ |
| 57 | J972 | Graphic display | | ✓ |
| 58 | R521 | Selection of Five Optional Language | ✓ | ✓ |
| 59 | R616 | Tool management expansion B | ✓ | |
| 60 | R630 | Quick program restart | | ✓ |
| 61 | S790 | Manual guide i | ✓ | |
| 62 | S808 | AI contour control II (G5.1 Q1) | | ✓ |
| 63 | R508 | Corner control by Speed | | ✓ |
| 64 | S617 | Tool offset | ✓ | ✓ |

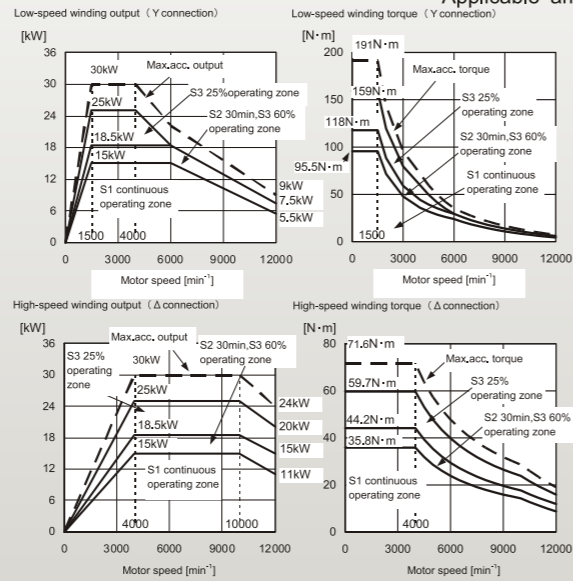
Spindle motor power and torque charts

LH-500A/B:FANUC α 15/8000i; α 15/12000i

Model α iI 15/12000

Ordering specification number: A06B-1429-B12□#0P21

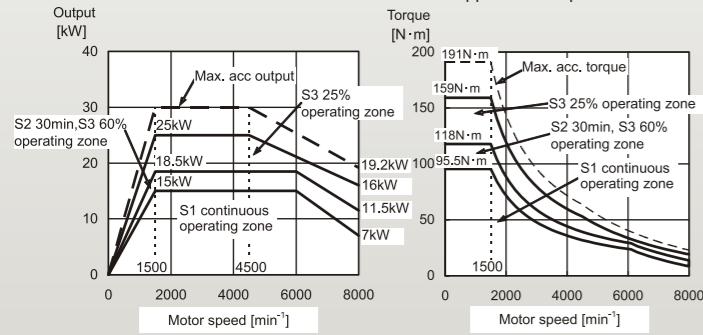
Applicable amplifier: α iSP 22-B



Model α iI 15/8000

Ordering specification number: A06B-1409-B□□□#□□□□

Applicable amplifier: α iSP 22-B

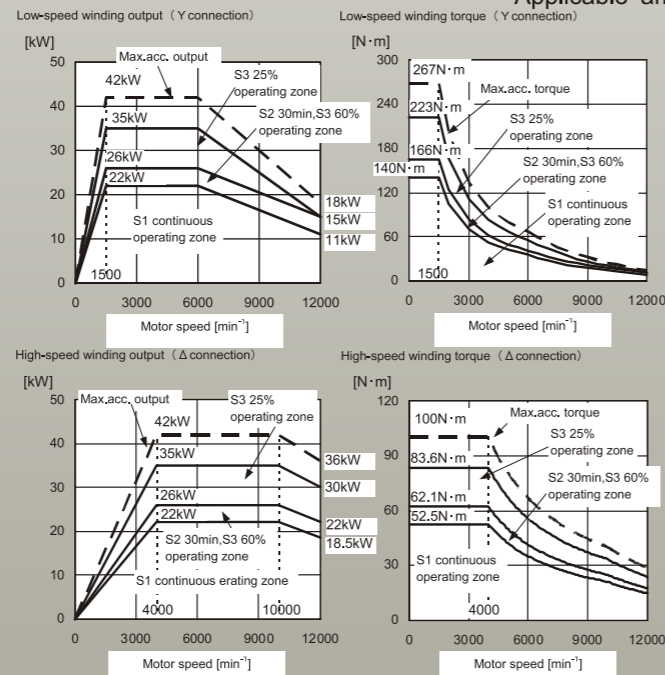


LH-630A/B, LH-800B:FANUC α 22/8000i; α 22/12000i

Model α iI 22/12000

Ordering specification number: A06B-1431-B12□#0P21

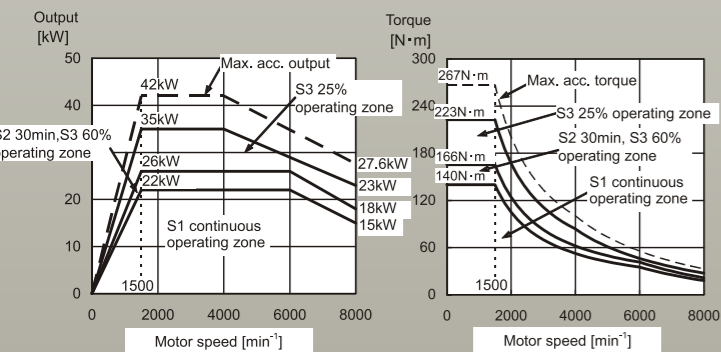
Applicable amplifier: α iSP 26-B



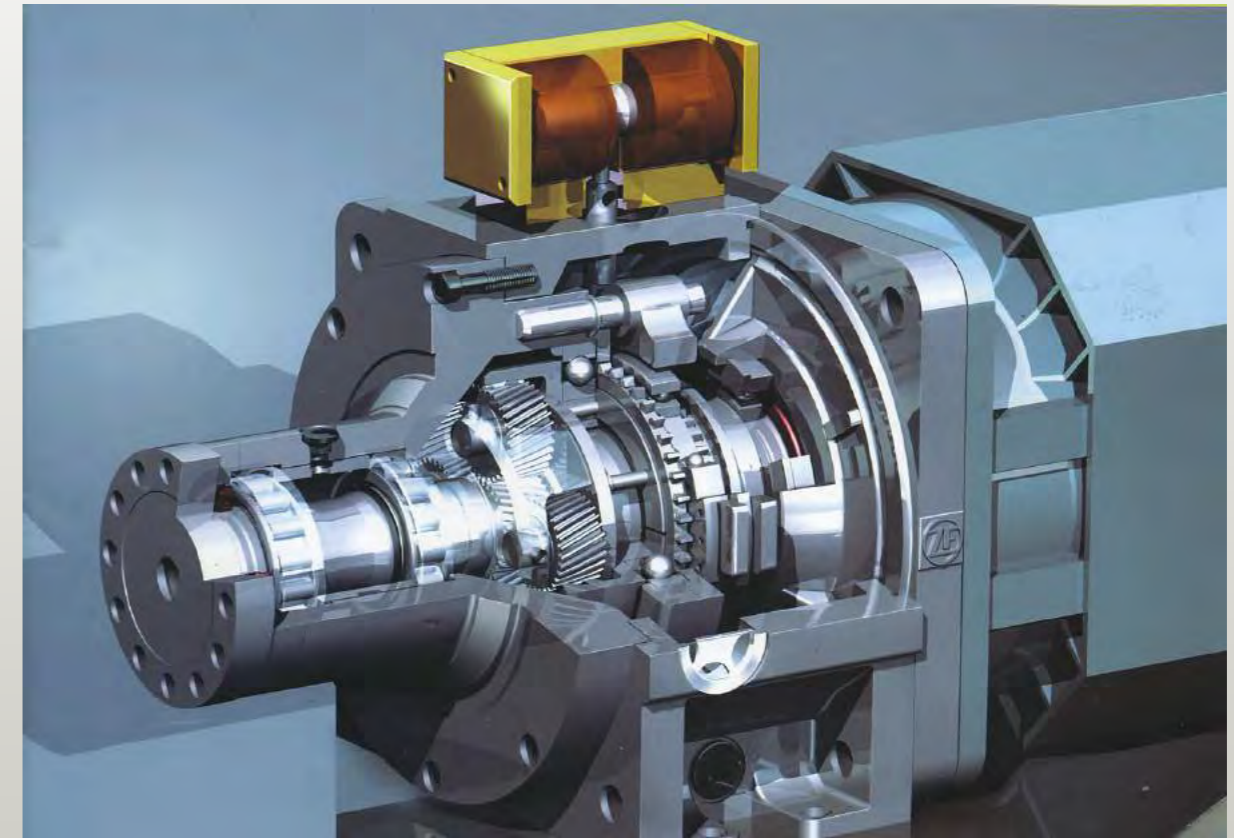
Model α iI 22/8000

Ordering specification number: A06B-1411-B□□□#□□□□

Applicable amplifier: α iSP 26-B



ZF + FANUC High-torque motor

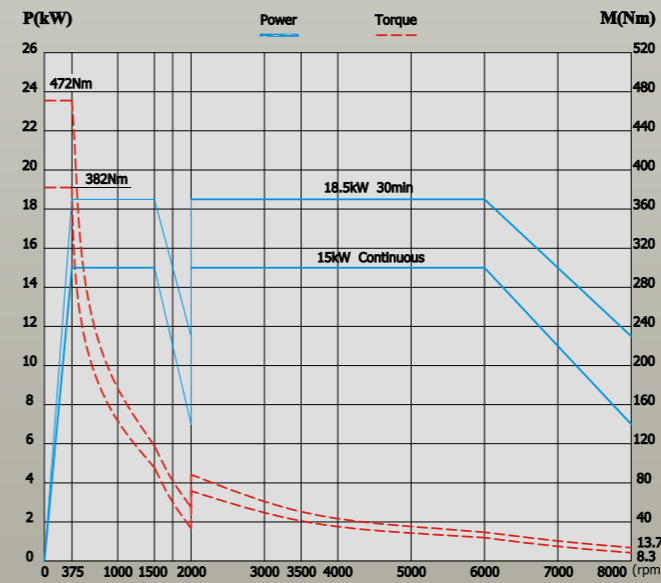


LH - 630B

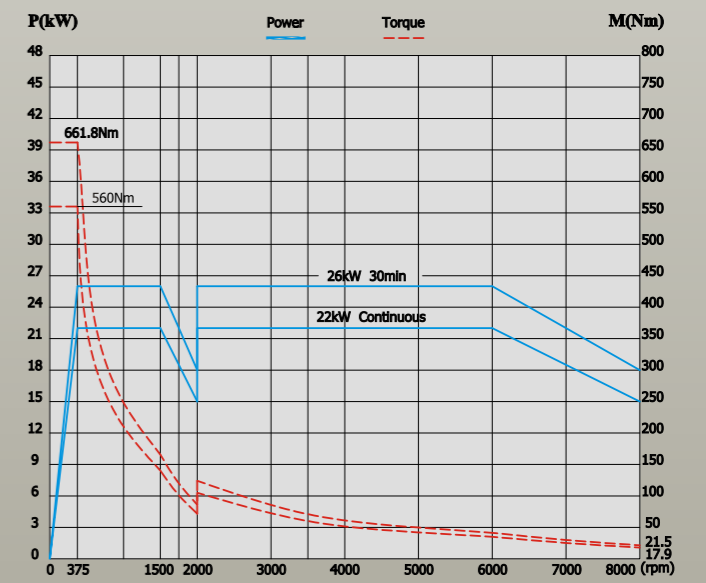
LH - 800B

α 15 / 8000i+ZF(α 15/18.5/25KW) OP

α 22 / 8000i+ZF(α 22/26/35KW)



FANUC α 15/8000i+ZF(RATE 1:4)
8K Spindle Power-Torque Chart



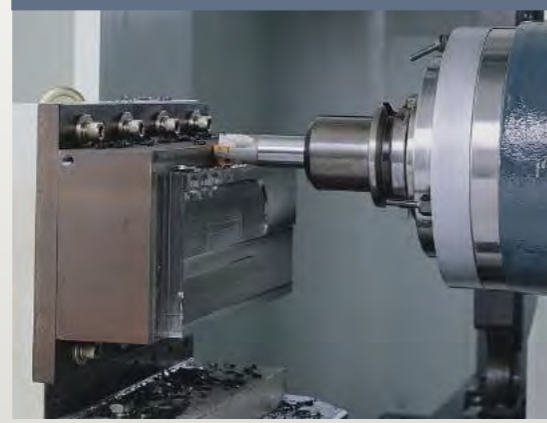
FANUC α 22/8000i+ZF(RATE 1:4)
8K Spindle Power-Torque Chart

Cutting data

Face mill tool Ø 80mm



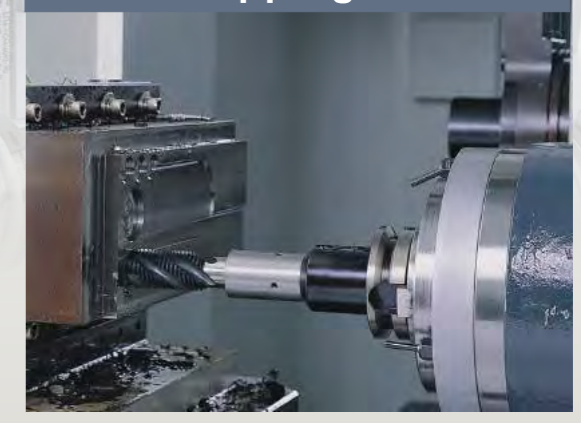
End mill tool Ø 40mm



Drill tip Ø 50mm



Tapping



LH-500B

Chip removal capacity
334mL/min
Spindle rpm
1000 rpm
Feedrate
1200 mm/min

Chip removal capacity
150mL/min
Spindle rpm
500 rpm
Feedrate
175 mm/min

LH-500B

Chip removal capacity
177mL/min
Spindle rpm
900 rpm
Feedrate
90 mm/min

Chip removal capacity
M36xP4.0
Spindle rpm
88 rpm
Feedrate
352 mm/min

LH-630B

Chip removal capacity
400mL/min
Spindle rpm
1000 rpm
Feedrate
1300 mm/min

Chip removal capacity
197mL/min
Spindle rpm
640 rpm
Feedrate
230 mm/min

LH-630B

Chip removal capacity
220mL/min
Spindle rpm
900 rpm
Feedrate
113 mm/min

Chip removal capacity
M40xP4.0
Spindle rpm
88 rpm
Feedrate
352 mm/min

LH-800B

Chip removal capacity(Ø100)
600mL/min
Spindle rpm
700 rpm
Feedrate
1000 mm/min

Chip removal capacity
296mL/min
Spindle rpm
700 rpm
Feedrate
340 mm/min

LH-800B

Chip removal capacity(Ø60)
282mL/min
Spindle rpm
770 rpm
Feedrate
100 mm/min

Chip removal capacity
M42xP4.5
Spindle rpm
88 rpm
Feedrate
352 mm/min

High accuracy

Machine Dimensions

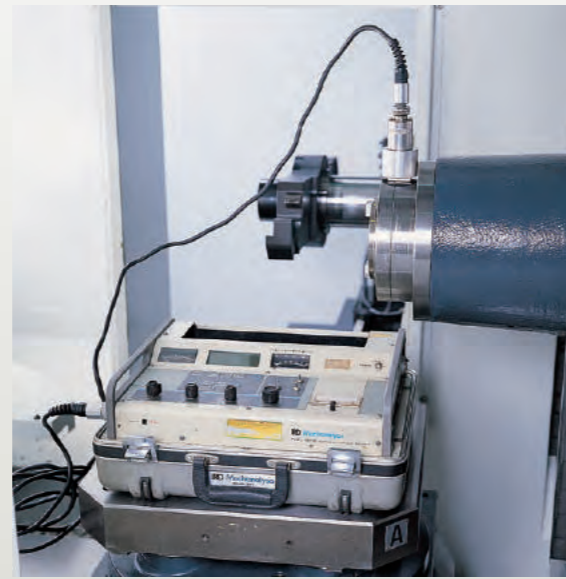
Unit: mm

Laser Inspection



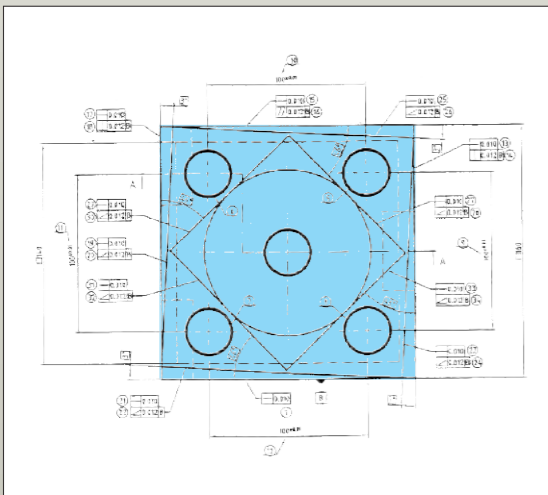
■ The full travel is inspected and compensated by a laser measurement instrument, ensuring machine accuracy and calibration results.

Dynamic Spindle Balancing



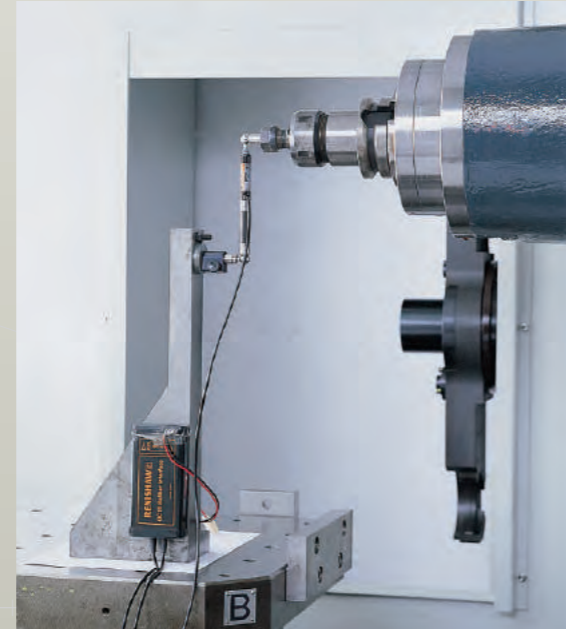
■ The IRD dynamic balancing instrument calibrates spindle speed, displacement, and acceleration at the maximum rpm.

Standard Specimen Test



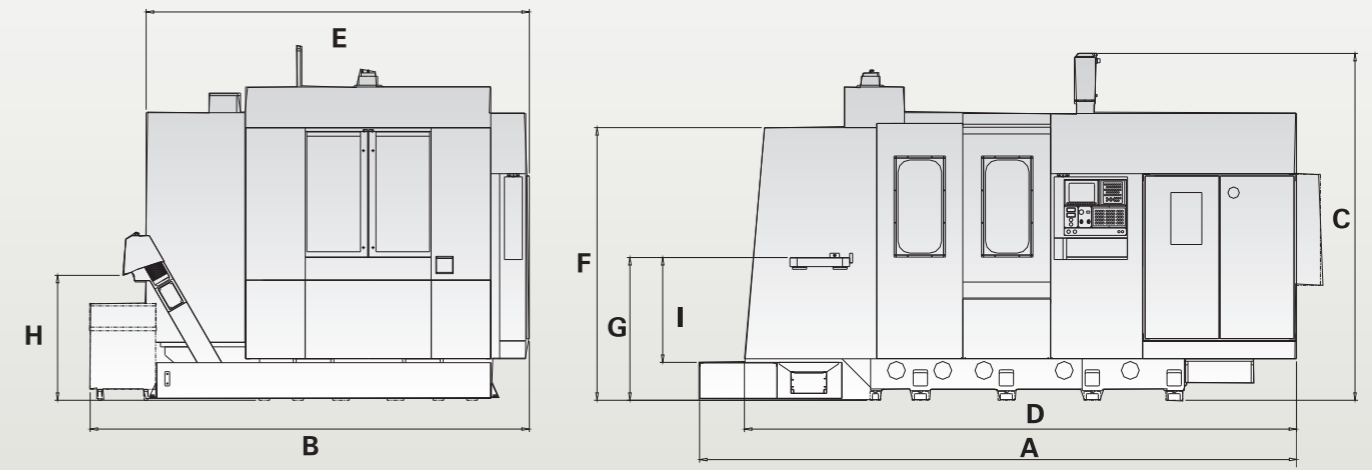
■ Besides inspection by precision instruments, every machine is subject to a dynamic cutting test according to international standards.
 ■ On completion of the cutting test, the standard specimen is measured using a 3D measuring machine to ensure accuracy.

Ball-Bar inspection



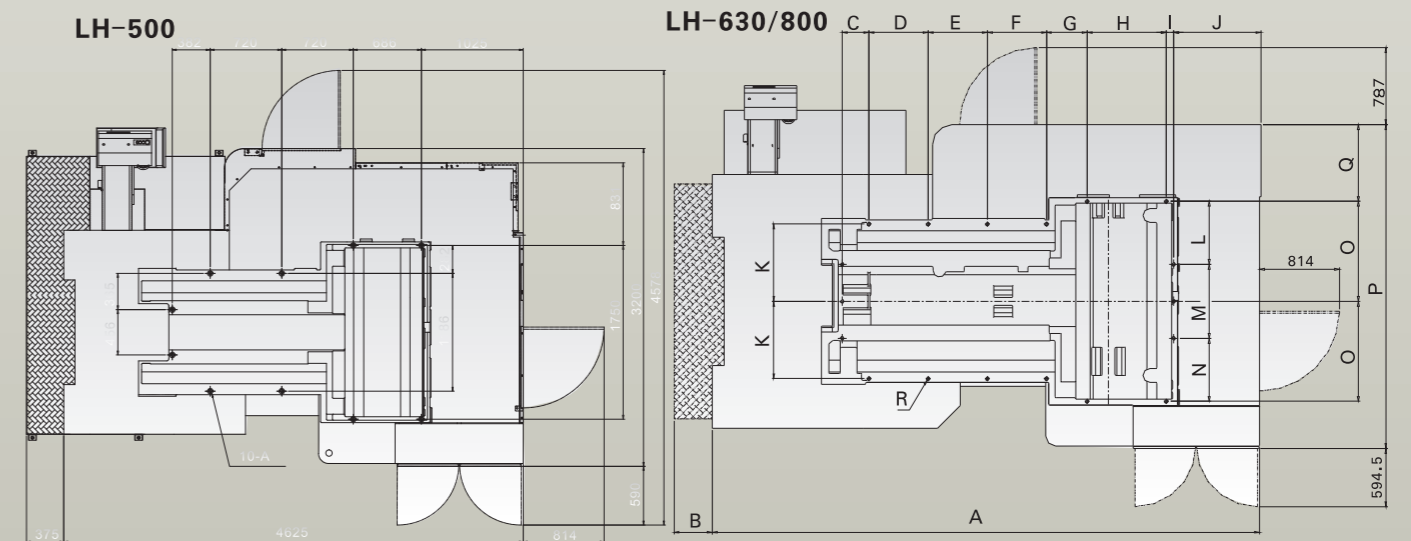
■ The Ball-Bar instrument is used for calibrating roundness and geometric accuracy of the machine to ensure precision 3D movement of the machine.

Dimensions



| Position Model | A | B | C | D | E | F | G | H | I |
|----------------|------|------|------|------|------|------|------|------|-----|
| LH-500 | 5000 | 3680 | 2980 | 4625 | 3200 | 2283 | 1195 | 1046 | 878 |
| LH-630 | 5966 | 4000 | 3362 | 5577 | 3570 | 2550 | 1295 | 1132 | 993 |
| LH-800 | 6991 | 4506 | 3948 | 6581 | 4326 | 2932 | 1300 | 1132 | 998 |

Floor space and foundation diagram



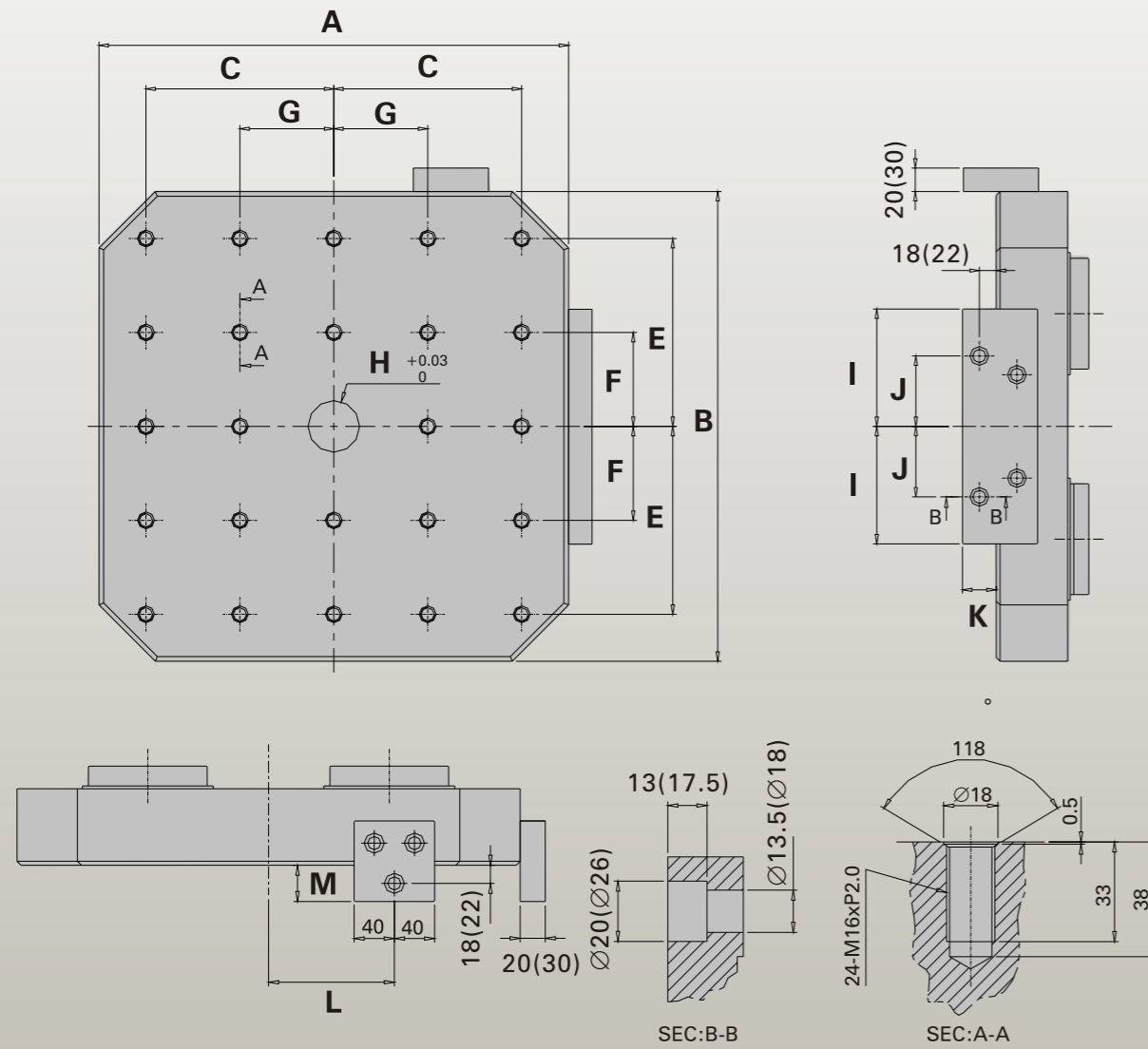
| | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R |
|--------|------|-----|-----|-----|-----|-----|-----|-------|----|-----|-------|-----|-----|-----|------|------|------|----|
| LH-630 | 5577 | 389 | 273 | 603 | 603 | 603 | 414 | 806.5 | 75 | 875 | 788.5 | — | — | — | 1020 | 3570 | 1051 | 14 |
| LH-800 | 6581 | 410 | 545 | 660 | 660 | 660 | 435 | 895 | 75 | 980 | — | 814 | 764 | 914 | — | 4326 | 1355 | 16 |

Machine Dimension

Unit: mm

Pallet Dimensions

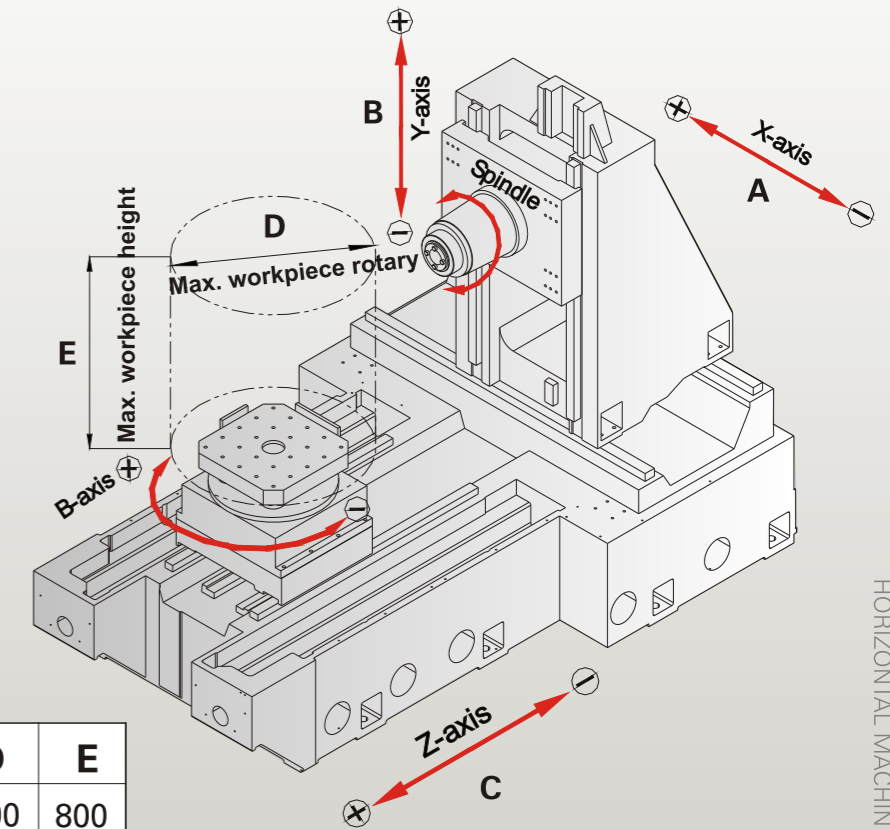
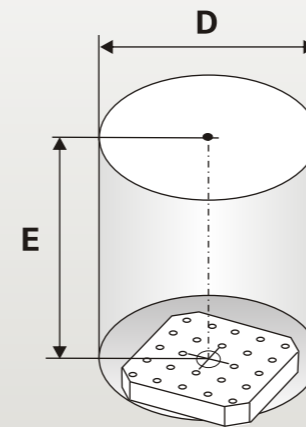
Unit: mm



STD: LH500/630
(): LH-800

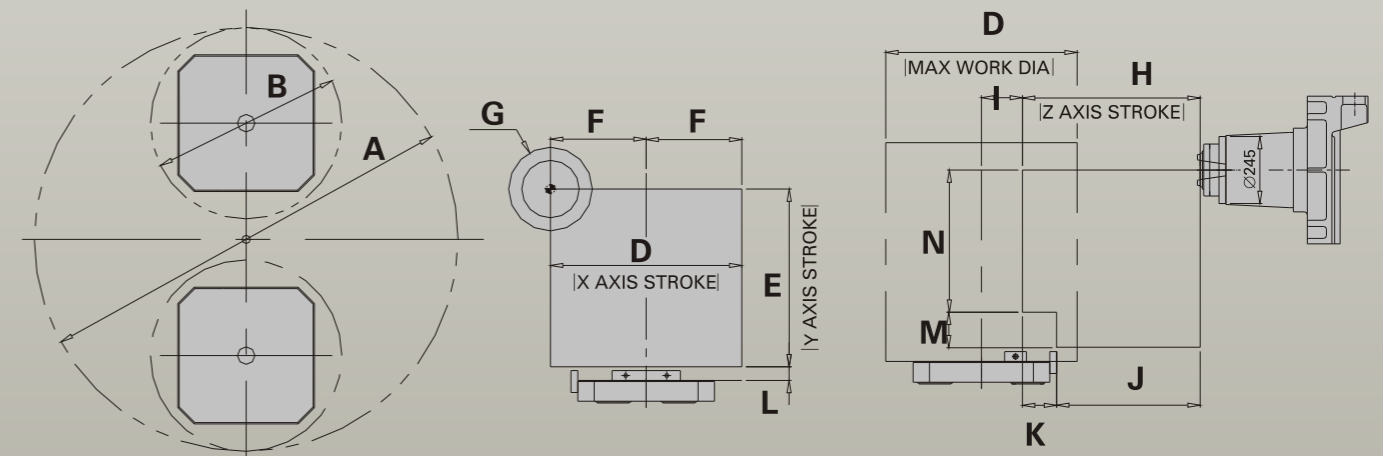
| Position Model | A | B | C | E | F | G | H | I | J | K | L | M |
|----------------|-----|-----|-----|-----|-----|-----|----|-----|-----|----|-----|----|
| LH-500 | 500 | 500 | 200 | 200 | 100 | 100 | 55 | 125 | 75 | 36 | 125 | 36 |
| LH-630 | 630 | 630 | 250 | 250 | 125 | 125 | 30 | 105 | 55 | 35 | 60 | 35 |
| LH-800 | 800 | 800 | 320 | 320 | 160 | 160 | 55 | 200 | 135 | 41 | 220 | 41 |

Traverse Diagrams



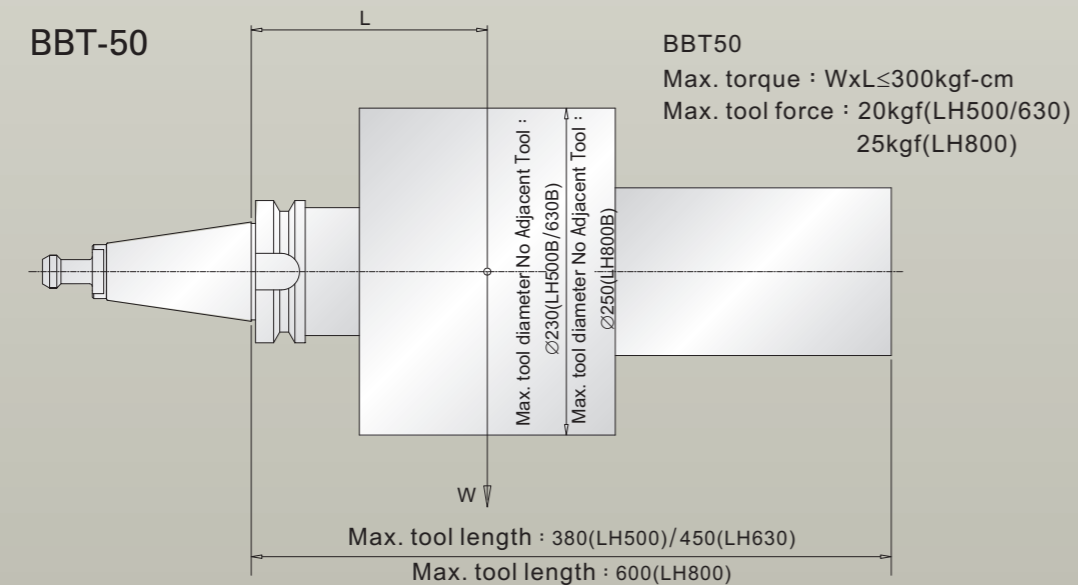
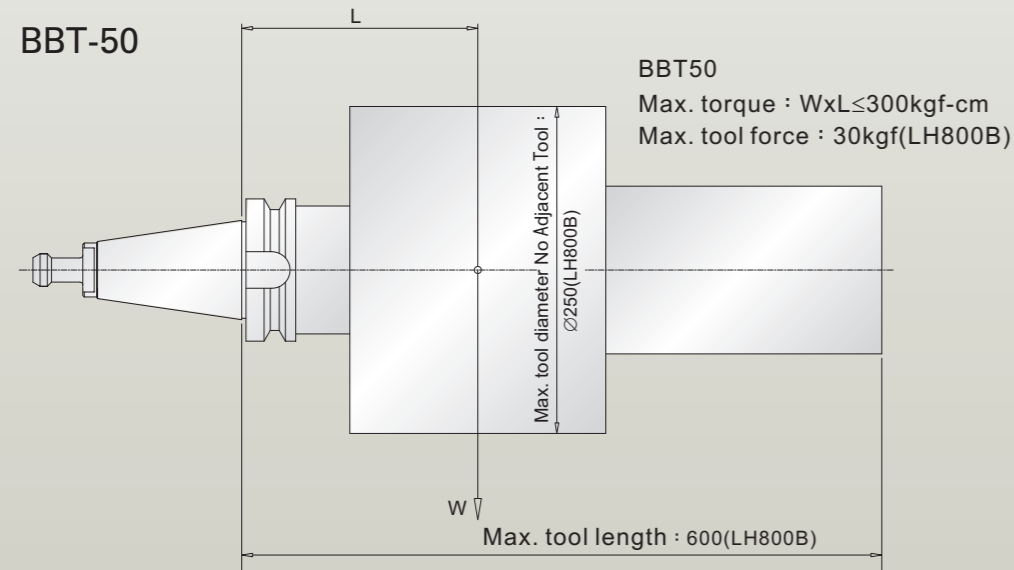
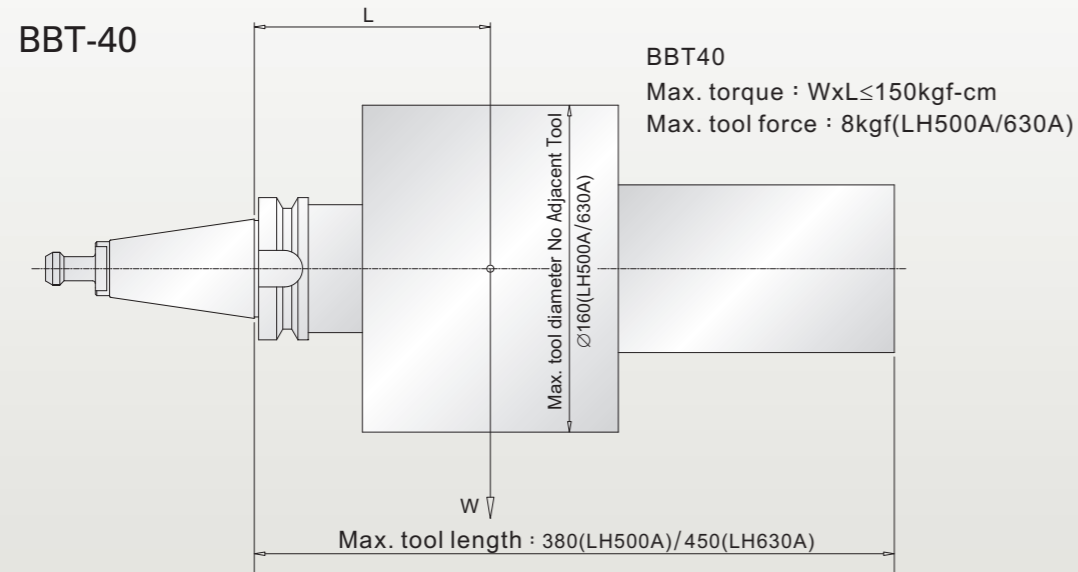
| Position Model | A | B | C | D | E |
|----------------|------|------|------|------|------|
| LH-500 | 700 | 650 | 650 | 700 | 800 |
| LH-630 | 1000 | 850 | 950 | 1000 | 1000 |
| LH-800 | 1300 | 1200 | 1200 | 1300 | 1300 |

Machining Range



| Position Model | A | B | D | E | F | G | H | I | J | K | L | M | N |
|----------------|------|------|------|------|-----|-----|------|-----|-----|-----|-----|-----|------|
| LH-500 | 1550 | 700 | 700 | 650 | 350 | 306 | 650 | 150 | 510 | 140 | 50 | 130 | 520 |
| LH-630 | 2230 | 1000 | 1000 | 850 | 500 | 306 | 950 | 150 | 755 | 195 | 100 | 80 | 770 |
| LH-800 | 2900 | 1300 | 1300 | 1200 | 650 | 306 | 1200 | 200 | 960 | 240 | 100 | 85 | 1115 |

Tool Specifications



List of accessories

● Standard accessory ○ Optional ☆ Requires consultation — Not available

| | LH-500A | LH-500B | LH-630A | LH-630B | LH-800B |
|---------------------------------------|---------|---------|---------|---------|---------|
| Spindle | | | | | |
| Spindle speed 6000RPM | — | ● | — | ● | ● |
| Spindle speed 8000RPM | — | ○ | — | ○ | ○ |
| Spindle speed 10000RPM | ● | — | ● | — | — |
| Spindle coolant system | ● | ● | ● | ● | ● |
| Spindle air seal system | ● | ● | ● | ● | ● |
| Spindle belt transmission | — | ○ | — | ● | ● |
| Spindle direct transmission | ● | ● | ● | — | — |
| Spindle belt transmission + ZF gear | — | — | — | ○ | ● |
| 3-axis transmission system | | | | | |
| 3-axis roller linear rail | ● | ● | ● | ● | ● |
| 3-axis ballscrew cooling system | ● | ● | ● | ● | ● |
| Linear scale system | ○ | ○ | ○ | ○ | ○ |
| Fourth axis optical encoder | ○ | ○ | ○ | ○ | ○ |
| Pallet unit | | | | | |
| Pallet 1° division | ● | ● | ● | ● | ● |
| Pallet 0.001° division | ○ | ○ | ○ | ○ | ○ |
| Pallet M16 fixing hole | ● | ● | ● | ● | ● |
| Pallet T-slot | ○ | ○ | ○ | ○ | ○ |
| Cooling system | | | | | |
| Splash ring | ● | ● | ● | ● | ● |
| Spindle Air Seal System | ○ | ○ | ○ | ○ | ○ |
| Coolant through Spindle system | ○ | ○ | ○ | ○ | ○ |
| Chip Removal System | | | | | |
| Track type chip conveyor system | ● | ● | ● | ● | ● |
| Chip storage cart | ● | ● | ● | ● | ● |
| Built-in screw-type chip auger | ● | ● | ● | ● | ● |
| Built-in oil-liquid separator | ● | ● | ● | ● | ● |
| Overhead chip wash-down system | ● | ● | ● | ● | ● |
| Disc-type coolant separator | ○ | ○ | ○ | ○ | ○ |
| Safety System | | | | | |
| Front door/Side door safety switch | ● | ● | ● | ● | ● |
| CE Safety Specifications | ○ | ○ | ○ | ○ | ○ |
| Measuring system | | | | | |
| Tool length measuring system NC-4S | ○ | ○ | ○ | ○ | ○ |
| Workpiece measuring system PMP-60 | ○ | ○ | ○ | ○ | ○ |
| Tool breakage detection (magazine) | ☆○ | ☆○ | ☆○ | ☆○ | ☆○ |
| ATC and Magazine Systems | | | | | |
| Tool Storage Capacity 40T | — | ● | — | ● | — |
| Tool Storage Capacity 60T | ● | ○ | ● | ○ | ● |
| Tool specification BBT | ● | ● | ● | ● | ● |
| Tool specification CAT | ○ | ○ | ○ | ○ | ○ |
| Tool taper NO 40 | ● | — | ● | — | — |
| Tool taper NO 50 | — | ● | — | ● | ● |
| Electrical | | | | | |
| M30 Automatic power-off system | ● | ● | ● | ● | ● |
| Working light (lighting) | ● | ● | ● | ● | ● |
| Warning light | ● | ● | ● | ● | ● |
| Electrical cabin air-conditioner | ○ | ○ | ○ | ○ | ○ |
| Electrical cabin heat exchange system | ● | ● | ● | ● | ● |
| Controller | | | | | |
| FANUC OiMF | ● | ● | ● | ● | ● |
| FANUC 3li | ○ | ○ | ○ | ○ | ○ |
| Other | | | | | |
| Mist collector unit | ○ | ○ | ○ | ○ | ○ |
| Rotary window | ○ | ○ | ○ | ○ | ○ |

Technical Specifications

| | LH-500A | LH-500B | LH-630A | LH-630B | LH-800B |
|---|---------|------------------|------------------|---------------------------|------------------|
| Travel | | | | | |
| Travel, X/Y/Z | mm | 700/650/650 | 1000/850/950 | 1300/1200/1200 | |
| Spindle center to pallet face | mm | 50-700 | 100-950 | 100-1300 | |
| Spindle nose to pallet center | mm | 150-800 | 150-1100 | 200-1400 | |
| Pallet | | | | | |
| Pallet size | mm | 500x500 | 630x630 | 800x800 | |
| Maximum workpiece | mm | Ø700 | Ø1000 | Ø1300 | |
| Maximum pallet load | kg | 500 | 1000 | 2000 | |
| Maximum workpiece height | mm | 800 | 1000 | 1300 | |
| Pallet surface configuration | mm | 24-M16 Pitch 100 | 24-M16 Pitch 125 | 24-M16 Pitch 160 | |
| Pallet minimum division angle | | 1° | 1° | 1° | |
| Spindle | | | | | |
| Spindle max. speed | RPM | 10000 | 6000 | 10000 | 6000 |
| Low/High gear variation | RPM | 6000 | ----- | 6000 | ----- |
| Spindle max. torque (cont.) | Nm | 120 | 165 | 660 | |
| Spindle taper | | 7/24Taper, No.40 | 7/24Taper, No.50 | 7/24Taper, No.40 | 7/24Taper, No.50 |
| Spindle bearing ID | mm | 70 | 100 | 70 | 100 |
| Spindle transmission | | Direct couple | Direct couple | Direct couple (Belt + ZF) | Belt + ZF |
| Feed | | | | | |
| Max. X/Y/Z Rapid speed | mm/min | 36000 | 32000 | 32000 | |
| Cutting feed rate | mm/min | 1-10000 | 1-10000 | 1-10000 | |
| Manual feed rate | mm/min | 1260 | 1260 | 1260 | |
| Automatic Tool Change | | | | | |
| Type of tool shank | | ISO 40/BBT-40 | ISO 50/BBT-50 | ISO 40/BBT-40 | ISO 50/BBT-50 |
| Tool capacity | PC | 60 | 40 | 60 | 40 |
| Max. tool diameter (without neighboring tool) | mm | 80(160) | 120(230) | 80(160) | 120(230) |
| Max. tool length | mm | 380 | 380 | 450 | 450 |
| Max. tool weight | kg | 8 | 20 | 8 | 20 |
| ATC change time (T to T) | Sec | 5 | 5 | 5 | 8 |
| Tool selection method | | Fixed address | | | |

| | LH-500A | LH-500B | LH-630A | LH-630B | LH-800B |
|--|---------|------------|-----------|-----------|-----------|
| Automatic Pallet Changer | | | | | |
| Number of Pallet | pc | 2 | 2 | 2 | 2 |
| Pallet Change method | | Rotary | Rotary | Rotary | Rotary |
| Time for APC | sec | 0iMF | 0iMF | 0iMF | 0iMF |
| Controller system | | | | | |
| FANUC | | 18i | 18i | 18i | 18i |
| Motor | | | | | |
| Spindle motor, power | KW | 15/18.5 | 22/26 | 22/26 | 22/26 |
| Spindle max. torque (30 min.) | Nm | 120 | 165 | 165 | 165 |
| X/Y/Z/B axis motor | KW | 7/7/4/1.6 | 7/7/7/3 | 7/6/7/3 | 7/6/7/3 |
| Motor, Hydraulic system | KW | 2.2 | 2.2 | 3.7 | 3.7 |
| Motor, coolant pump system | KW | 1.6 | 1.6 | 1.6 | 1.6 |
| Power Supply | | | | | |
| Power requirement | KVA | 42 | 42 | 42 | 42 |
| Capacity of oil tank/coolant tank | | | | | |
| Capacity, Hydraulic System | L | 60 | 60 | 60 | 60 |
| Capacity, Lubrication System | L | 4 | 4 | 4 | 4 |
| Capacity, coolant system | L | 760 | 800 | 850 | 850 |
| Mechanical Specifications | | | | | |
| Height | mm | 2980 | 3362 | 3948 | 3948 |
| Floor area | mm | 5000x 3200 | 5966x3570 | 6991x4326 | 6991x4326 |
| Weight | kg | 15000 | 23000 | 25000 | 25000 |

- All photos in this catalog are for reference only. Please refer to the actual machine in case of discrepancies.
- LITZ reserves the right to make alterations or deletions to the specifications, appearances and accessories of the product.

Total Production Solution

Highly efficient manufacturing fashion, equipped with high performance control system. The high speed contouring capability can achieve best possible surface quality under most demanding machining cycle time. Highly dynamic five axes machining provides solution for complex tasks.



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iTNC530 / 840D
Ideal for high-end application CNC system. Modular, open, flexible operating interfaces are the highlight of the controller. Programming and visual structure can be integrated with network systems.



Litz Hitech & Open Mind,
the CAM company
The strategic alliances



The monitoring &
collision test within
work range

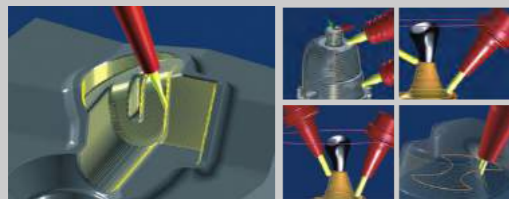


MST Tools (Japan)



Litz Hitech LU Series

5 Axes Series employs U shape base with dual-support A/C axes rotary worktable's high rigidity mechanism. The machine is equipped with 12000RPM direct-drive high speed spindle. High durable roller type linear guideways, 3 axes high precision linear scales along with other high quality components brings out the excellences of the 5 axes simultaneous control. Mill, drill, tap, spiral, irregular and other complex machining can be easily achieved.



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