



## Quality & Productivity Specialist

### NEW GENERATION 23 STATION POWER TURRET

The 23-station dual-disk turret accommodates more tools than any other machine of its type in the industry. A maximum of 11 I.D. drilling or milling tools can be held by the rear disk while a maximum of 34 tools can be loaded on both the front and the rear disks. Set-ups are faster and easier and tool changes are minimized. With the fastest chip-to-chip time in the industry, the bi-directional programming of the dual-disk design can index O.D. tools on separate disks, further with y-axis  $\pm 60$  mm traverse equips with sub-spindle for long-term operation and complex machining.

Toll Free Service Line :  
**0800-233166**



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**FEMCO**®

Beyond Today's Possibilities, No Limits



**CNC HORIZONTAL LATHE**

[www.femco.com.tw](http://www.femco.com.tw)



# HL-25N / 25D

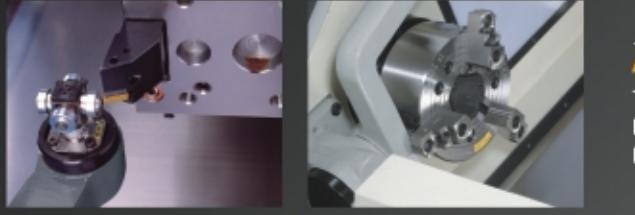
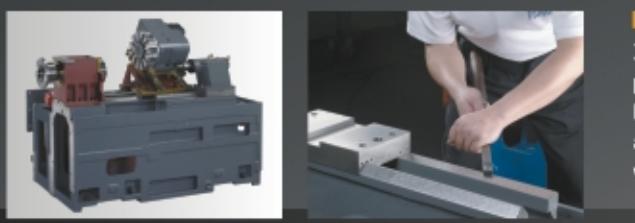
UNSURPASSED HIGH SPEED

HIGH PERFORMANCE AND HIGH PRECISION



## HL-25N SPECIAL FEATURES

- Swing over bed ø515mm.
- Max. turning diameter ø250mm.
- Max. turning length 600mm.
- Choice of 8, 12, 23 station turret or power turret.
- Modular design provides variety of options for cost effective combination from bar feeder, parts conveyor, tool presetter, bar puller to genie robot.
- ø51.5mm bar capacity.
- FANUC α P22i wide speed range, spindle drive provides 11/15KW output.
- Meehanite base, saddle and headstock casting.
- Precision heavy duty linear ball guide ways.
- Choice of FANUC or Siemens CNC control.
- The smallest footprint in its class.
- Automatic lubrication system.
- Straight bed construction.
- Bed slideways are fitted with linear motion guides.



**RIGHT SIDE SLIDING OPERATING  
BOX CORRESPONDS TO ERGONOMICS**



## LINEAR GUIDE WAYS

X and Z axis precision linear guide ways provide stable cutting capability. Automatic lubrication system extends the lifespan and reduce the friction of linear guide ways.

## MACHINE STRUCTURE

All major components are made from High tensile strength MEEHANITE casting which has been heat-treated, vibration and antideform tested and ground. Unique and compact design of machine bed occupies less floor space, only 2.1mx1.35m (without chip conveyor), allowing more spaces usage.

## SCRAPING WORKS

Scraping is the fundamental of machine accuracy. Our experienced and specialized scraping assembly works provide the best and accurate sliding surfaces with the accuracy better than CNS and JIS standard.

## AUTOMATIC LUBRICATOR

The automatic lubricator delivers lubricant, 3~6cc in 15min. Intervals to both slideways and ballscrews.

## TOOL PRESETTER

Reduces setup time by 4 point contacts of each tool with the measuring sensor. Allows for automatic monitoring of tool wear. Controller can automatically select a spare tool or suspend operation when programmed by custom macro.

## HYDRAULIC CHUCK

Each FEMCO CNC lathe is furnished standard with a hydraulic chuck, with soft and hard jaws.

## DRIVE SYSTEM & BALL SCREWS

X/Z axis is powered by a maintenance free digital AC servo motors that are coupled directly to the ball screws. Without gears installed, there is no risk of backlash or servo drag. Double pretensioned ball screws provide outstanding positioning repeatability with no thermal growth.

## MANUAL TAILSTOCK

The hydraulically actuated tailstock is fixed with a protruding quill and clamped securely on the bed.

## HIGH-SPEED TURRET

Innovative double disc turret with 23 tools: OD 12 Tools, ID 11 Tools.



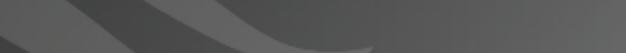
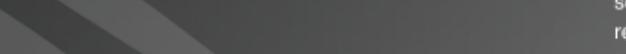
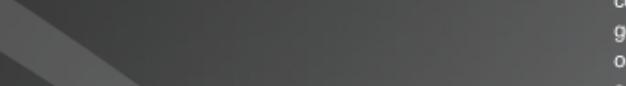
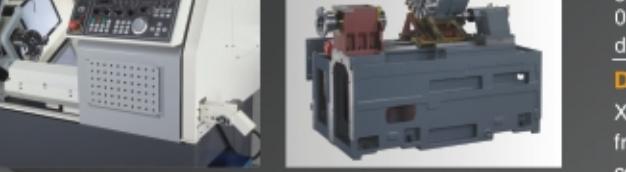
# HL-25DM

23 TOOLS STATIONS DESIGN REDUCE TOOL  
CHANGING TIME PLUS MAXIMUM TOOL LOAD CAPACITY



## HL-25DM SPECIAL FEATURES

- Innovative Double disc Turret, OD 12 Tools, ID 11 Tools. All ID tools position can be equipped with power tool.
- Biggest Machining Capacity in same size machines.
- Max Swing : ø515mm.
- Max Turning Length : 550mm.
- Max Turning Diameter : ø350mm.
- Bigger three pieces Curvic Coupling, Higher Rigidity.
- Innovative tooling diagram design, same tool for front side and rear side machining.
- One servo motor driven two turret discs, tool position changing is faster and higher accuracy.
- Innovative pneumatic-driven clamping system, no hydraulic less pollution.
- Built-in parts catcher, no interference when door opens and closes.
- Smaller turret swing in same size power turret, less tooling interference.



## HIGH-SPEED TURNING

With the New generation 23-station turret you can machine a wide range of workpieces including those for which automation used to be difficult because they require many processes.

## LINEAR GUIDE WAYS

X and Z axis precision linear guide ways provide stable cutting capability. Automatic lubrication system extends the lifespan and reduce the friction of linear guide ways.

## Heat Exchanger System

Provides stable temperature environment lower electrical cabinet temperature, stabilize electrical control system, avoid electrical cabinet overheat.

## HIGH-SPEED TURRET

High speed servo driven turret provides prominent indexing and accurate positioning..Fast bi-directional index selects tools at 0.13 second for 8-station turret; 12-station turret for 0.09 second. All tool holders adopt FCD rotundity graphite casting within measured 0.01mm accuracy enduring the vibrations during the machine.

## FIRST PRIZE

Taiwan Machine Tools Show(TIMTOS) Winning Award.

## HYDRAULIC CHUCK

Each FEMCO CNC lathe is furnished standard with a hydraulic chuck, with soft and hard jaws.

## DRIVE SYSTEM & BALL SCREWS

X/Z axis is powered by a maintenance free digital AC servo motors that are coupled directly to the ball screws. Without gears installed, there is no risk of backlash or servo drag.Double pretensioned ball screws provide outstanding positioning repeatability with no thermal growth.

## PARTS CONVEYOR

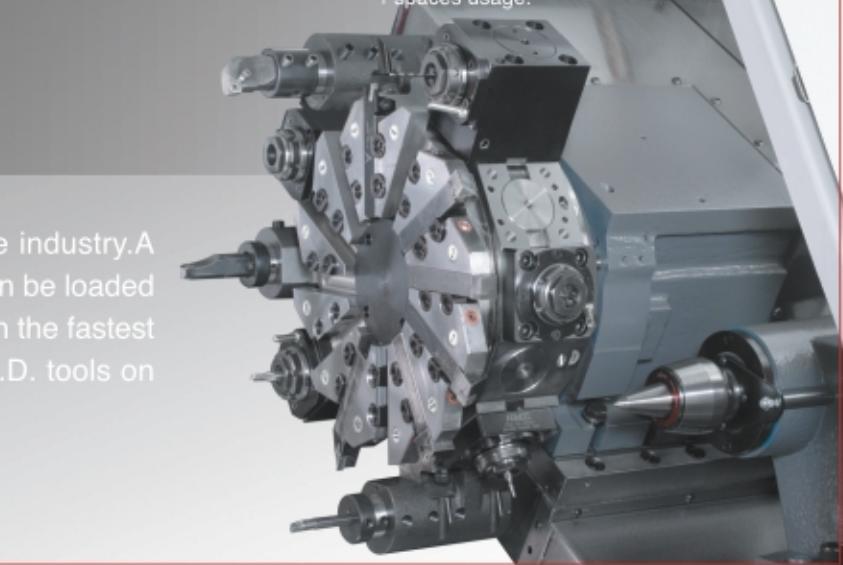
Built-in parts conveyor can avoid the left out of the chips and coolants.

## MACHINE STRUCTURE

All major components are made from High tensile strength MEEHANITE casting which has been heat-treated, vibration and antideform tested and ground. Unique and compact design of machine bed occupies less floor space, only 2.1mx1.35m (without chip conveyor) , allowing more spaces usage.

## THE REVOLUTIONARY 23 STATION DUAL DISK TURRET

The 23-station dual-disk turret accommodates more tools than any other machine of its type in the industry.A maximum of 11 I.D. drilling or milling tools can be held by the rear disk while a maximum of 23 tools can be loaded on both the front and the rear disks. Set-ups are faster and easier and tool changes are minimized. With the fastest chip-to-chip time in the industry, the bi-directional programming of the dual-disk design can index O.D. tools on separate disks, further CUT your cutting time.



# HL-25DMS

FEMCO LATEST TECHNOLOGY,  
WHICH ALLOWS HIGH-EFFICIENCY PRODUCTION



## CNC LATHE HL-25DMS SPECIAL FEATURES

- Innovative double disc turret with 23 tools: OD 12 Tools, ID 11 Tools.
- Every 11 ID tools can be equipped with power tool.
- Max Swing : Ø400mm.
- Max Turning Length : 530mm.
- Max Turning Diameter : Ø300mm.
- Power turret with the rear turning and milling function and sub-spindle combine to satisfy one set up machining.
- Innovative pneumatic-driven clamping system, less pollution and energy saving.



## LINEAR GUIDE WAYS

X and Z axis precision linear guide ways provide stable cutting capability. Automatic lubrication system extends the lifespan and reduce the friction of linear guide ways.



## PARTS CONVEYOR

Built-in parts conveyor can avoid the loss of chips and coolants.

**DRIVE SYSTEM & BALL SCREWS**  
X/Z axis is powered by a maintenance free digital AC servo motors that are coupled directly to the ball screws. Without gears installed, there is no risk of backlash or servo drag. Double pretensioned ball screws provide outstanding positioning repeatability with no thermal growth.

## ERGONOMICS

Right side sliding operating box corresponds to ergonomics.

## TOOL PRESETTER

With automatic tool presetter, it enables quick tool setting time.

## SCRAPING WORKS

Scraping is the fundamental of machine accuracy. Our experienced and specialized scraping assembly works provide the best and accurate sliding surfaces with the accuracy better than CNS and JIS standard.

## HYDRAULIC CHUCK

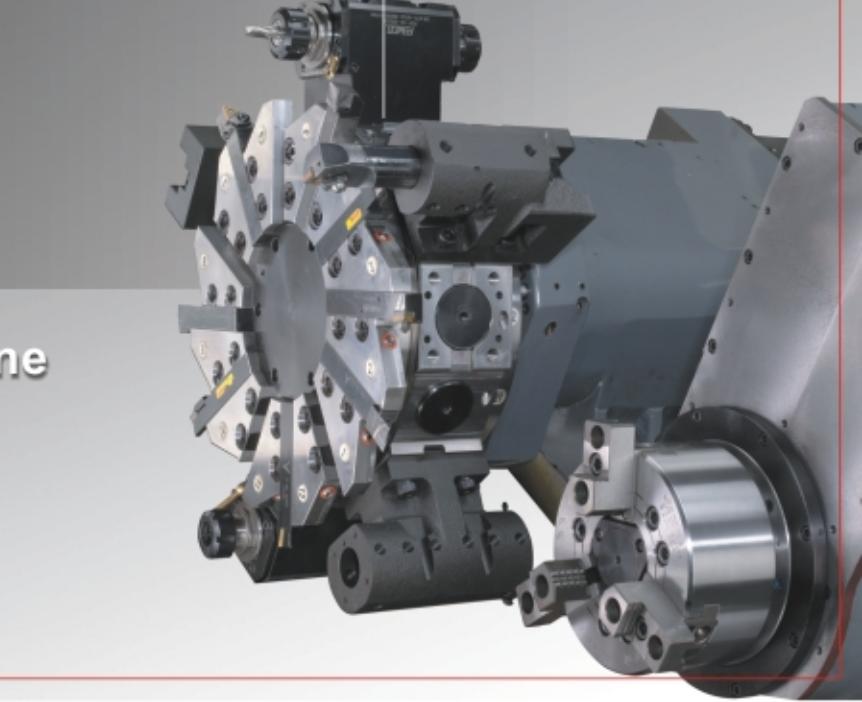
Each FEMCO CNC lathe is furnished standard with a hydraulic chuck, with soft and hard jaws.

## SUB-SPINDLE

Power turret with the rear turning and milling function and sub-spindle combine to satisfy one set up machining.

## HIGH-PRECISION EQUIPMENT

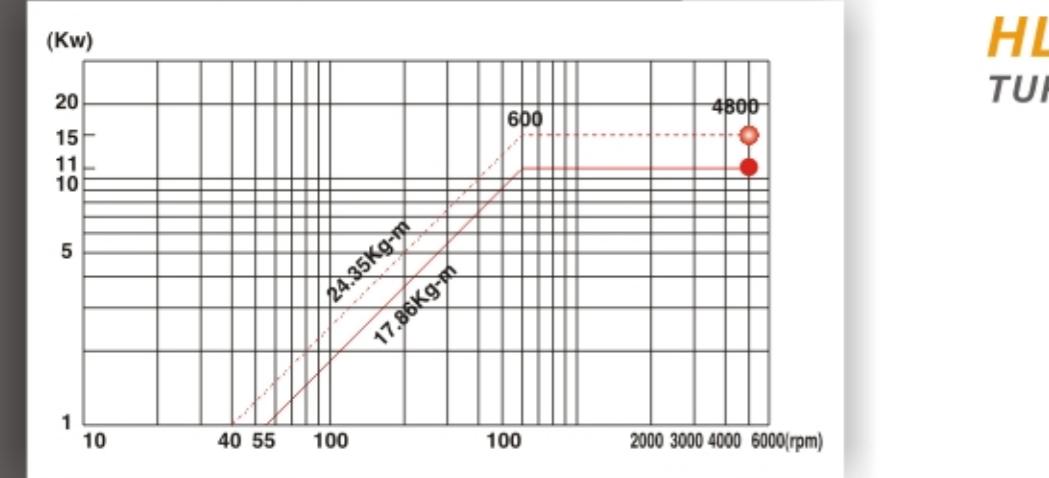
With the new generation 23-station turret you can machine a wide range of workpieces including those for which automation used to be difficult because they require many processes



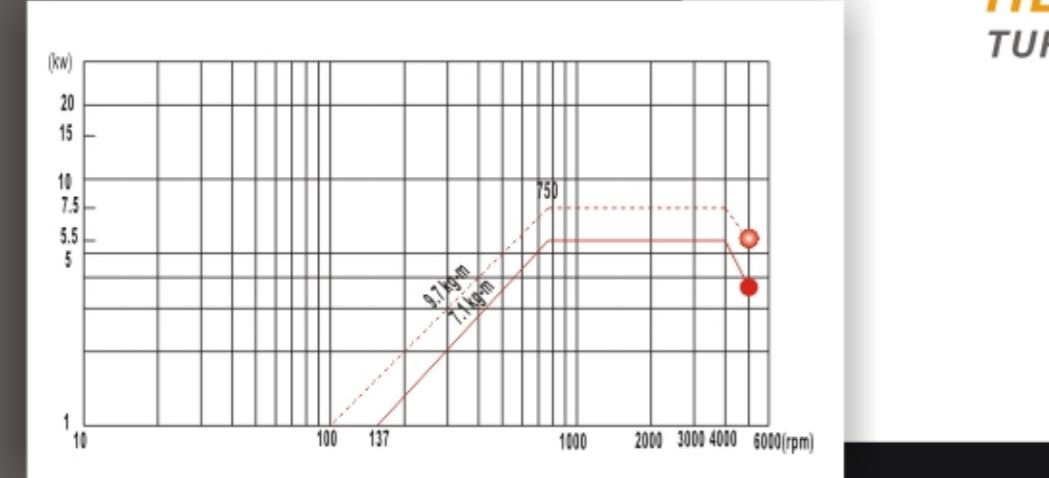
# PRECISION SPINDLE

High precision cylindrical roller bearings and angular thrust ball bearings supports optimized span to withstand radial, axial and combined loading. High-speed grease usage and pretension angular thrust ball bearings minimize the thermal effect and enhance the rigidity and tenacity for heavy-duty cutting.

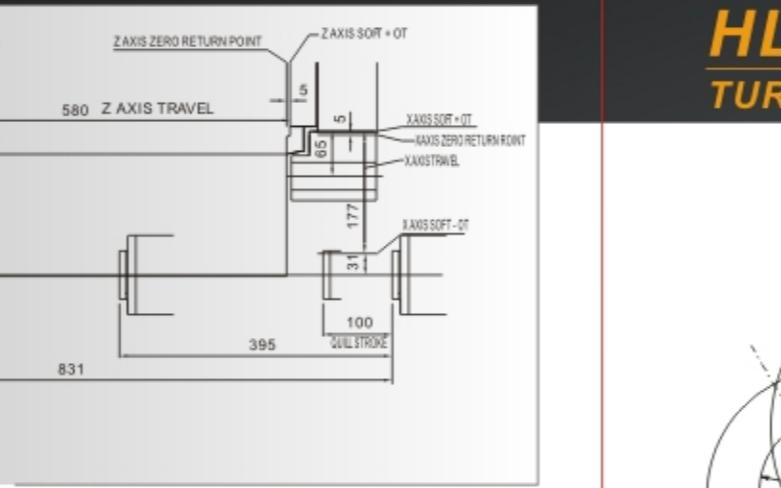
## MAIN - TORQUE CHART



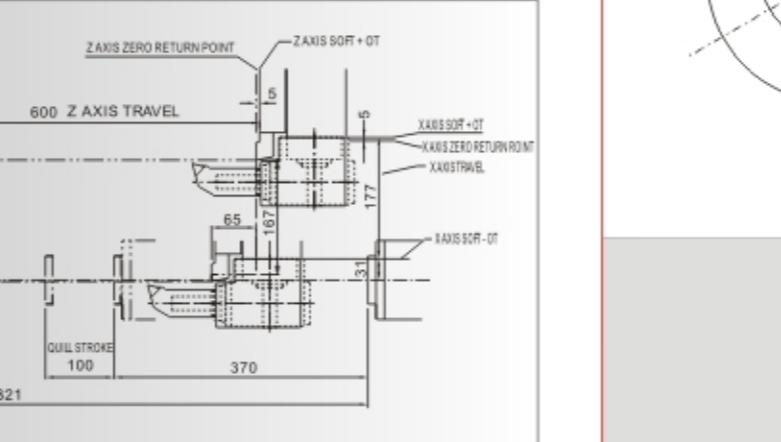
## SUB - SPINDLE TORQUE CHART



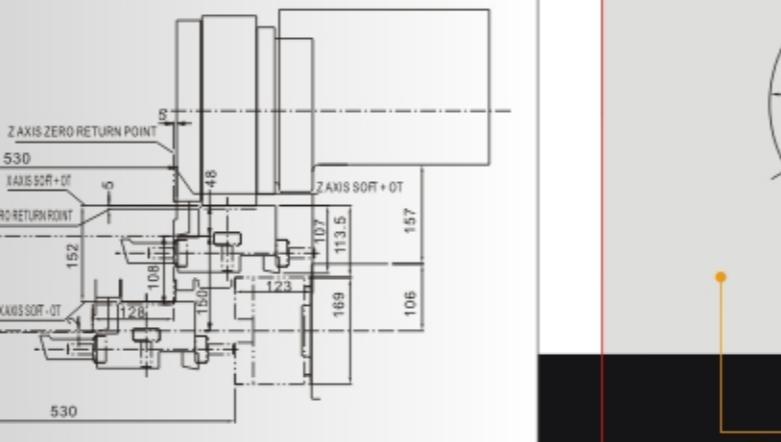
## HL-25N/25D TURRET MACHINING FIELD



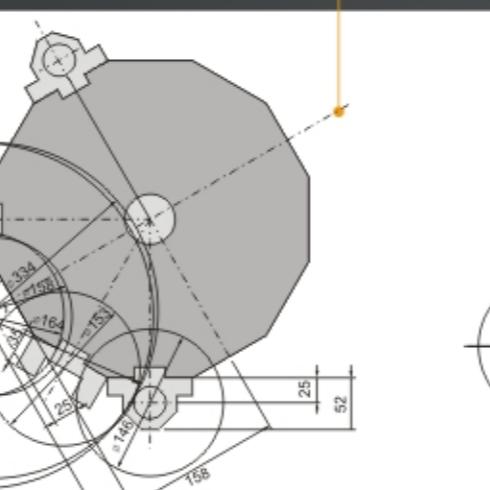
## HL-25DM TURRET MACHINING FIELD



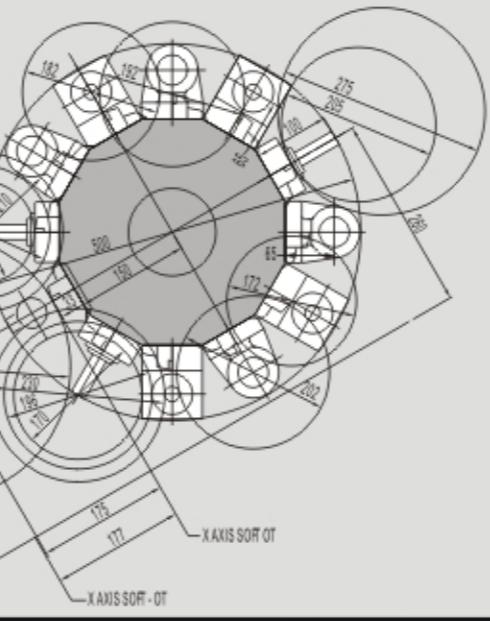
## HL-25DMS TURRET MACHINING FIELD



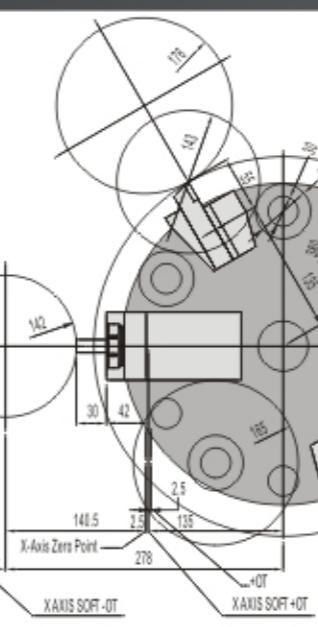
## HL-25N TURRET INTERFERENCE



## 25DM POWER TURRET INTERFERENCE



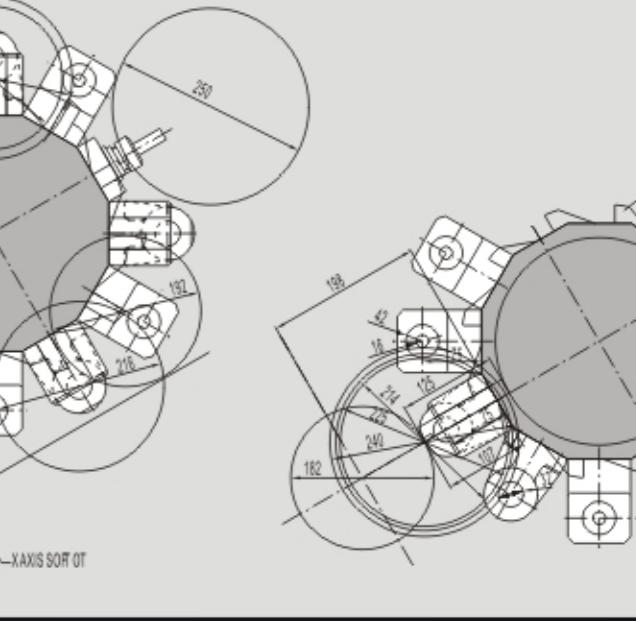
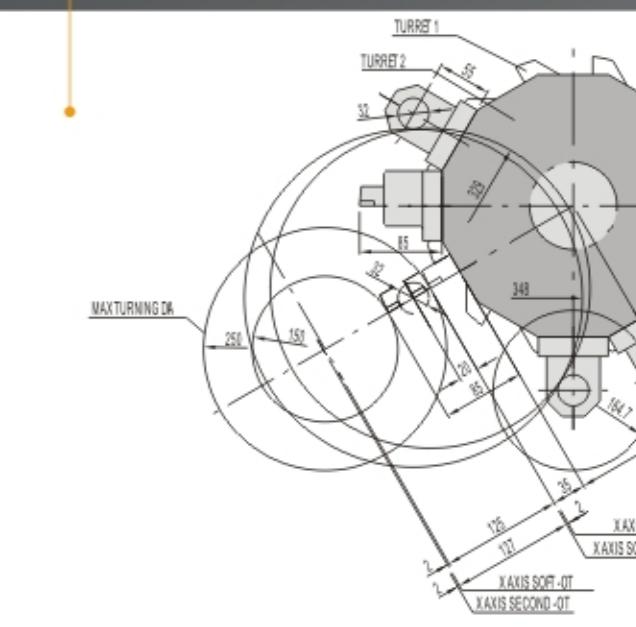
## HL-25N/C-Axis POWER TURRET INTERFERENCE



## 25DMS POWER TURRET INTERFERENCE



## HL-25D TURRET INTERFERENCE



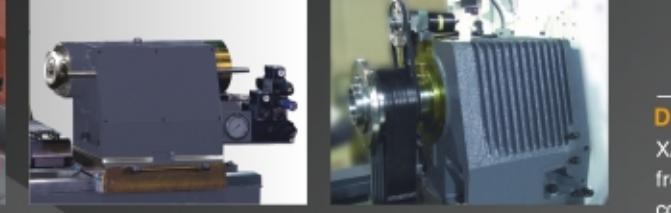
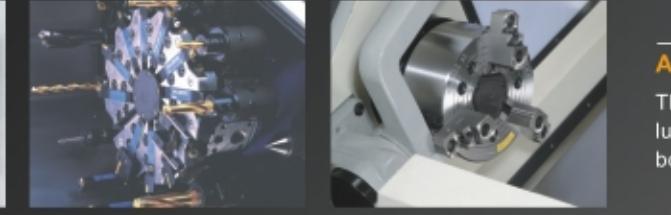
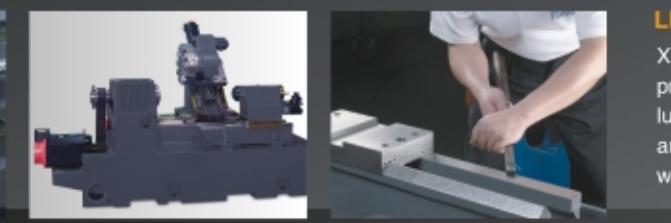
# HL-35 / 35D / 35DM

UNSURPASSED HIGH SPEED  
HIGH PERFORMANCE AND HIGH PRECISION



## CNC LATHE HL-35 SPECIAL FEATURES

- Swing over bed ø500 mm.
- Max. turning diameter ø360 mm.
- Max. turning length 675 mm.
- Spindle speed 4000 rpm.
- Choice of 12, 23 station turret or 12 station power turret.
- Modular design with many options for cost effective combination of bar feeder, parts catcher, bar puller.
- ø74.5 mm bar capacity.
- FANUC αP30i wide speed range spindle drive provides 15/18.5 KW output.
- 10" chuck.
- Meehanite base, saddle and headstock casting.



## LINEAR GUIDE WAYS

X and Z axis precision linear guide ways provide stable cutting capability. Automatic lubrication system extends the lifespan and reduce the friction of linear guide ways.

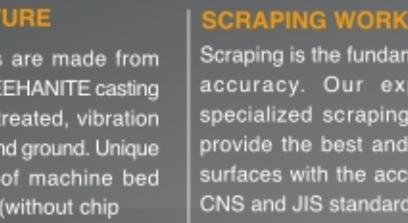
## AUTOMATIC LUBRICATOR

The automatic lubricator delivers lubricant, 3~6cc in 15min. Intervals to both slideways and ballscrews.

## HIGH-SPEED TURRET

## MACHINE STRUCTURE

All major components are made from High tensile strength MEEHANITE casting which has been heat-treated, vibration and antideform tested and ground. Unique and compact design of machine bed occupies less floor space, (without chip conveyor), allowing more spaces usage.



## SCRAPING WORKS

Scraping is the fundamental of machine accuracy. Our experienced and specialized scraping assembly works provide the best and accurate sliding surfaces with the accuracy better than CNS and JIS standard.

## HYDRAULIC CHUCK

Each FEMCO CNC lathe is furnished standard with a hydraulic chuck, with soft and hard jaws.

## DRIVE SYSTEM & BALL SCREWS

## PROGRAMMABLE TAILSTOCK

## HIGH PRECISION SPINDLE

High precision cylindrical roller bearings and angular thrust ball bearings supports optimized span to withstand radial, axial and combined loading. High-speed grease usage and pretensioned angular thrust ball bearings minimize the thermal effect and enhance the rigidity and tenacity for heavy-duty cutting.

## THE ULTIMATE PERFORMANCE

23 stations turret specifications equipped with 12 live tools, 11 I.D. and 12 O.D. for long term operation and complex machining



# HL-35DMSY

## THE ULTIMATE TURNING AND MILLING CAPABILITY



### HL-35DMSY SPECIAL FEATURES

- Power turret with Y-axis  $\pm 60$ mm traverse, equips with facing and eccentric drilling function.
- Main spindle (A2-8) with 10" hollow chuck to max 4000 rpm and 400mm max turning dia.
- Spindle and sub-spindle both have precision C-axis control function and patterned braking system.
- Single motor drive VDI and dual disc turret tool selecting is capable of machining in front and rear simultaneously.



### POWER TURRET

With Y-axis  $\pm 60$  mm traverse equips with facing, milling and drilling function.



### PARTS CATCHER

Bar capacity Ø74.5mm (max), parts catcher in spindle side with automatic bar feeder for automatic machining.



### SPINDLE MOTOR

All live tools and double disc turret drive by servo motor.

### CONTROL SYSTEM

FANUC, Siemens, Heidenhain.

### DISC BRAKE

In main and sub spindles ensure the machining accuracy.

### TOOL PRESETTER

With automatic tool presetter, it enables quick tool setting time.

### DOUBLE DISC TURRET

Double disc turret with 34 tools, OD 12 Tools, ID 24 Tools (max). Pneumatic-driven clamping system, no pollution and energy saving.

## THE ULTIMATE TURNING AND MILLING PERFORMANCE

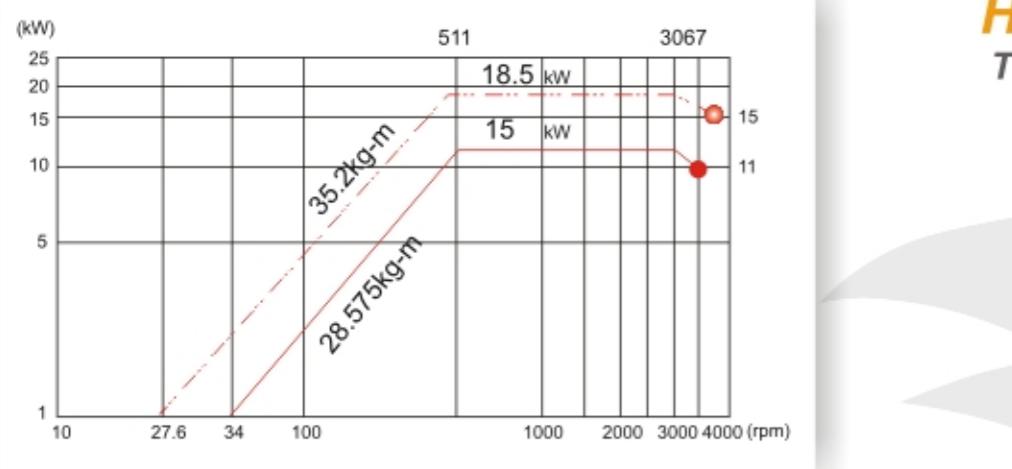


23-station turret specifications equipped with Y-axis and Sub-spindle for long-term operation and complex machining

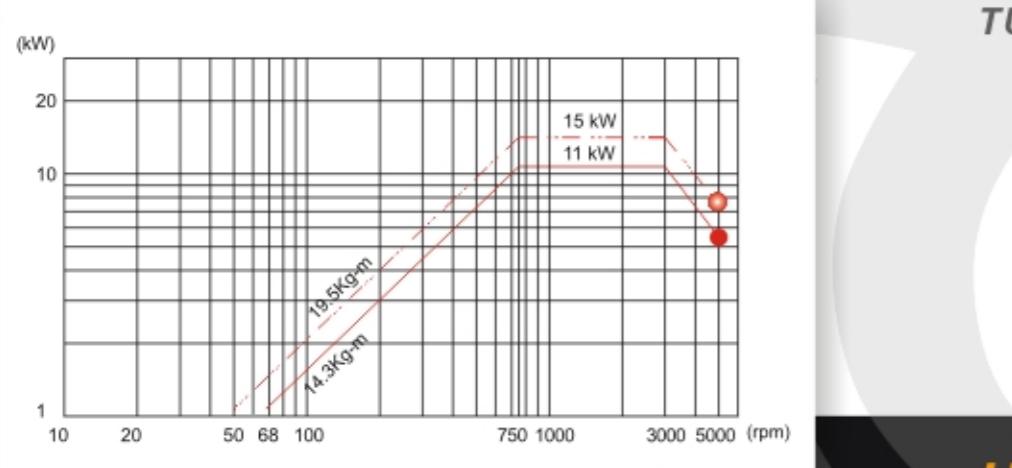
# PRECISION SPINDLE

High precision cylindrical roller bearings and angular thrust ball bearings supports optimized span to withstand radial, axial and combined loading. High-speed grease usage and pretension angular thrust ball bearings minimize the thermal effect and enhance the rigidity and tenacity for heavy-duty cutting.

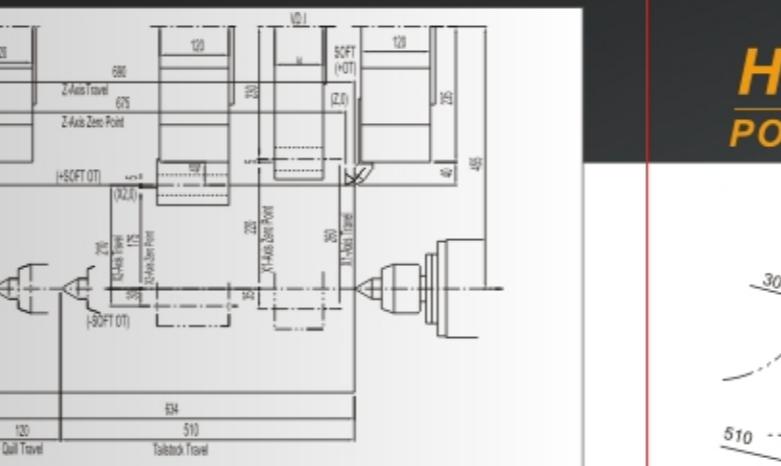
## MAIN - TORQUE CHART



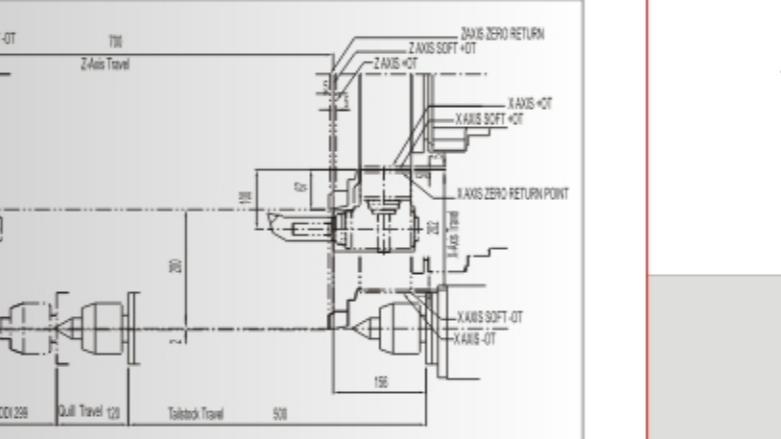
## SUB - SPINDLE TORQUE CHART



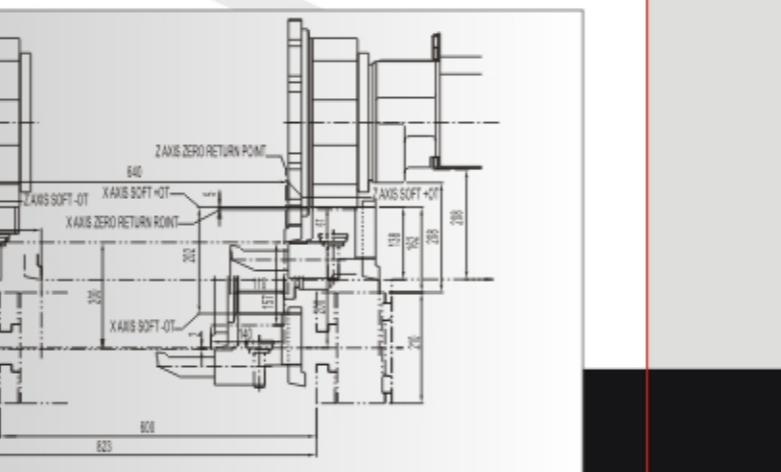
## HL-35/35D TURRET MACHINING FIELD



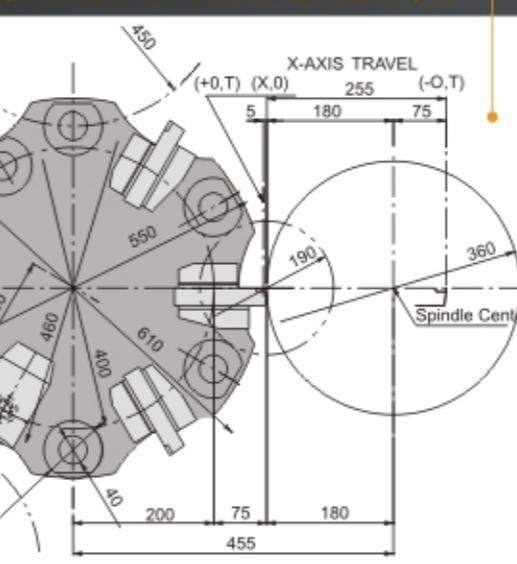
## HL-35DM TURRET MACHINING FIELD



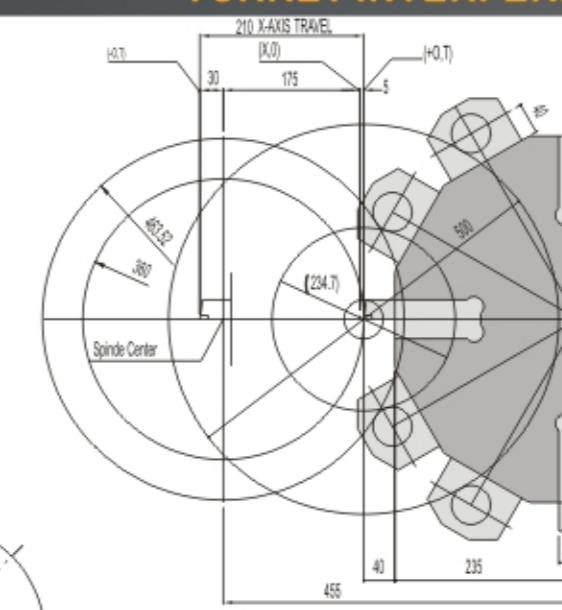
## HL-35DMSY TURRET MACHINING FIELD



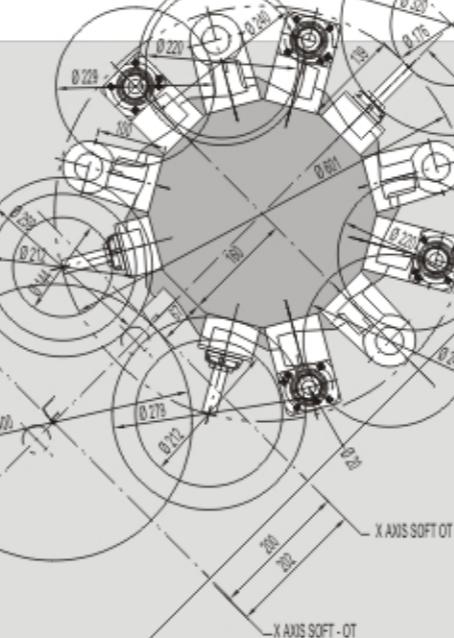
## HL-35 / C-AXIS POWER TURRET INTERFERENCE



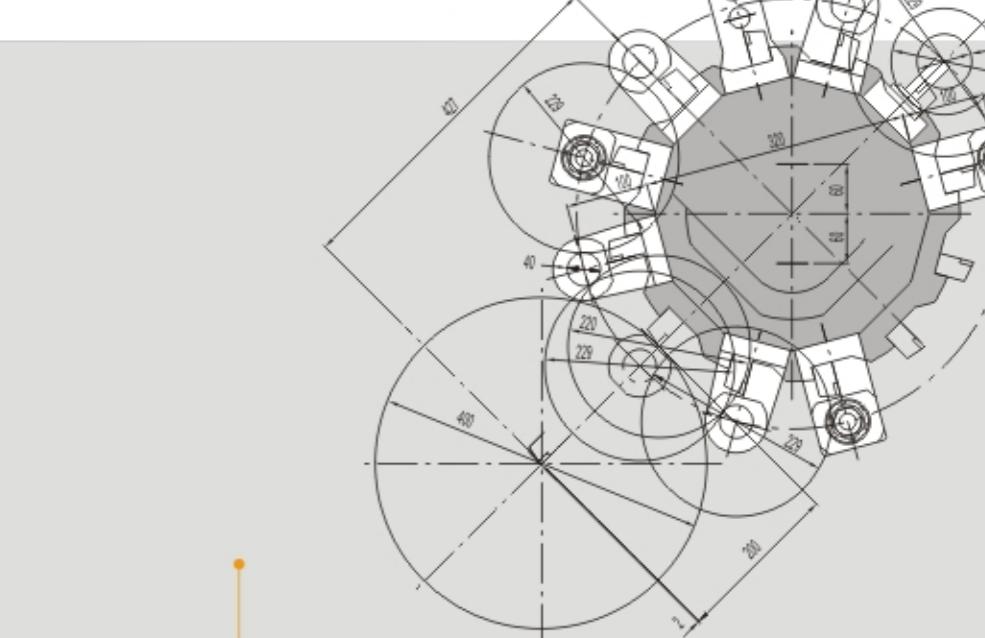
## HL-35 TURRET INTERFERENCE



## HL-35DM POWER TURRET INTERFERENCE



## HL-35DMSY POWER TURRET INTERFERENCE



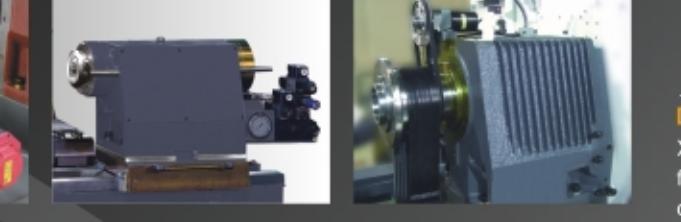
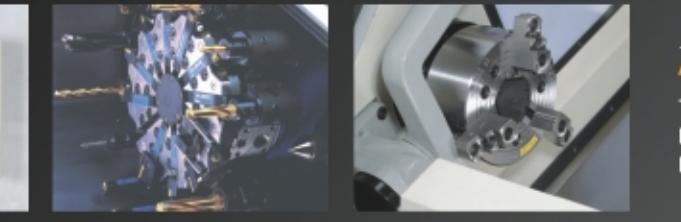
# HL-45 1000 / 1500

## SUPERIOR AND DEPENDABLE PERFORMANCE



### HL-45 SPECIAL FEATURES

- Swing over bed ø635 mm.
- Max. turning diameter ø600 mm.
- Max. turning length 940/1440 mm.
- Spindle speed 2500 rpm.
- Choice of 12, 23 station turret or 12 station power turret.
- Modular design with many options for cost effective combination of bar feeder, parts catcher, bar puller.
- ø89.5 mm bar capacity.
- FANUC αP40i wide speed range spindle drive provides 18.5/22 kW output.
- 12" chuck.
- Meehanite base, saddle and headstock casting.



The highly rigid body with roller guides, offer stable machining and excellent cost performance

### LINEAR GUIDE WAYS

X and Z axis precision linear guide ways provide stable cutting capability. Automatic lubrication system extends the lifespan and reduce the friction of linear guide ways.

### MACHINE STRUCTURE

All major components are made from High tensile strength MEEHANITE casting which has been heat-treated.

### SCRAPING WORKS

Scraping is the fundamental of machine accuracy. Our experienced and specialized scraping assembly works provide the best and accurate sliding surfaces with the accuracy better than CNS and JIS standard.

### AUTOMATIC LUBRICATOR

The automatic lubricator delivers lubricant, 3~6cc in 15min. Intervals to both slideways and ballscrews.

### C-AXIS POWER TURRET

With a new-generation turret design dramatically improved milling and turning ability.

### HYDRAULIC CHUCK

Each FEMCO CNC lathe is furnished standard with a hydraulic chuck, with soft and hard jaws.

### DRIVE SYSTEM & BALL SCREWS

X/Z axis is powered by a maintenance free digital AC servo motors that are coupled directly to the ball screws. Without gears installed, there is no risk of backlash or servo drag. Double pretensioned ball screws provide outstanding positioning repeatability with no thermal growth.

### PROGRAMMABLE TAILSTOCK

Programmable tailstock quill can be controlled from the operator's panel or NC program. It reduces set up time while increasing productivity.

### HIGH PRECISION SPINDLE

High precision cylindrical roller bearings and angular thrust ball bearings supports optimized span to withstand radial, axial and combined loading. High-speed grease usage and pretension angular thrust ball bearings minimize the thermal effect and enhance the rigidity and tenacity for heavy-duty cutting.

# HL-55S

1250 / 2000 / 2500

A STRUCTURE WITH GREATER RIGIDITY AND  
SLANT BED DESIGN



## HL-55S SPECIAL FEATURES

- Swing over bed ø727 mm.
- Max. turning diameter ø640 mm.
- Max. turning length up to 2320 mm.
- FANUC α22 wide speed range motor with ZF gearbox.
- Choice of 8,12 station turret .
- 15"chuck.( up to 22" opt.)
- Meehanite base, saddle and headstock casting.
- Precision heavy duty box ways.
- Overload protection on X, Z axis.
- Automatic lubricating system.
- Highly rigid hydraulic tailstock .



## SLANT BED CONSTRUCTION

45 degree slant bed design allows for easy loading, changing and inspection of tools and facilitate chips drain.

## FULLY PROGRAMMABLE TAILSTOCK

Fully programmable tailstock and tailstock quill can be controlled from the operator's panel or NC program. It reduces set up time while Increasing productivity

## HIGH-RIGIDITY BOX WAYS

Large span of high-rigidity box ways are made inthe same plane of machine bed that eliminate thermal distortion and provide perfect stability in heavy-duty cutting. The guide ways are induction hardened and precision ground with turcite B to maintain feeding and positioning accuracy.

## SCRAPING WORKS

Scraping is the fundamental of machine accuracy. Our experienced and specialized scraping assembly works provide the best and accurate sliding surfaces with the accuracy better than CNS and JIS standard.

## HIGH-SPEED TURRET

High speed servo driven turret provides prominent indexing and accurate positioning.

## HYDRAULIC CHUCK

Each FEMCO CNC lathe is furnishe standard with a hydraulic chuck, wi soft and hard jaws.

## DRIVE SYSTEM & BALL SCREWS

X/Z axis is powered by a maintenance free digital AC servo motors that are coupled directly to the ball screws. Without gears installed, there is no risk of backlash or servo drag.Double pretensioned ball screws provide outstanding positioning repeatability with no thermal growth.

## MACHINE STRUCTURE

All major components are made from High tensile strength MEEHANITE casting which has been heat-treated, vibration and antideform tested and ground. Unique and compact design of machine bed occupies less floor space, (without chip conveyor) , allowing more spaces usage.

## SPINDLE MOTOR

Adopting FANUC Alpha Serials spindle motor and servomotor shorten the time of acceleration and deceleration, which meliorates the machining efficiency and curtails the program running time.

## RIGID AND PRECISE SLANT BED DESIGN

The Ultimate Line-up

HL-55S 1250 / 2000 / 2500

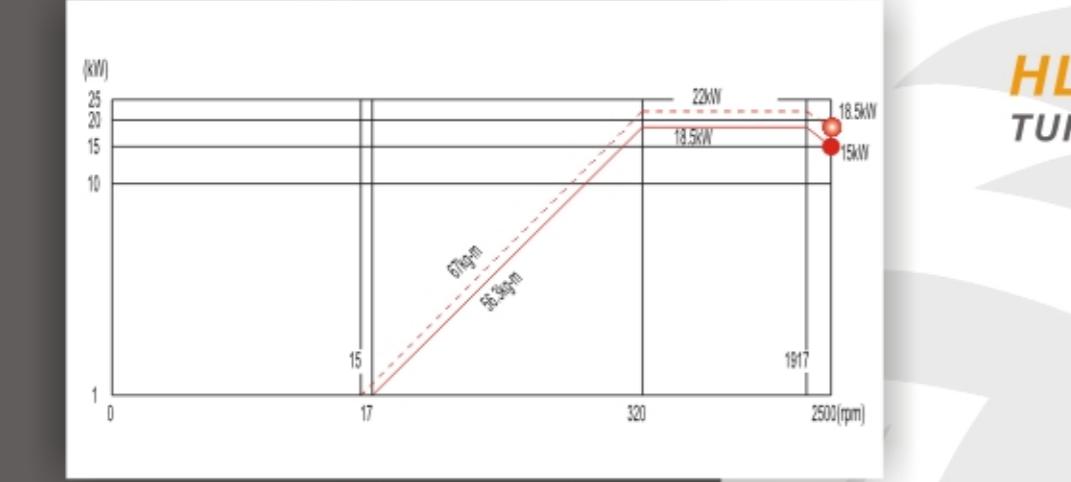


# PRECISION SPINDLE

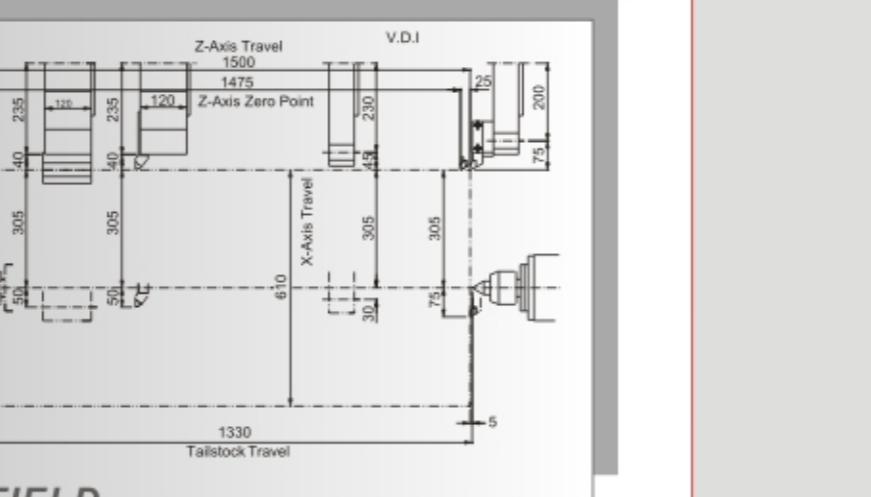
High precision cylindrical roller bearings and angular thrust ball bearings supports optimized span to withstand radial, axial and combined loading. High-speed grease usage and pretension angular thrust ball bearings minimize the thermal effect and enhance the rigidity and tenacity for heavy-duty cutting.

## HL-45 1000/1500

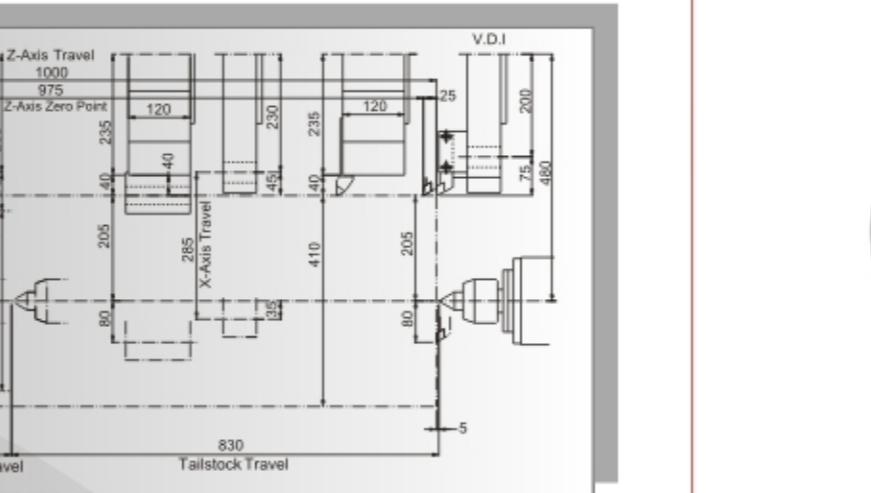
### MAIN - TORQUE CHART



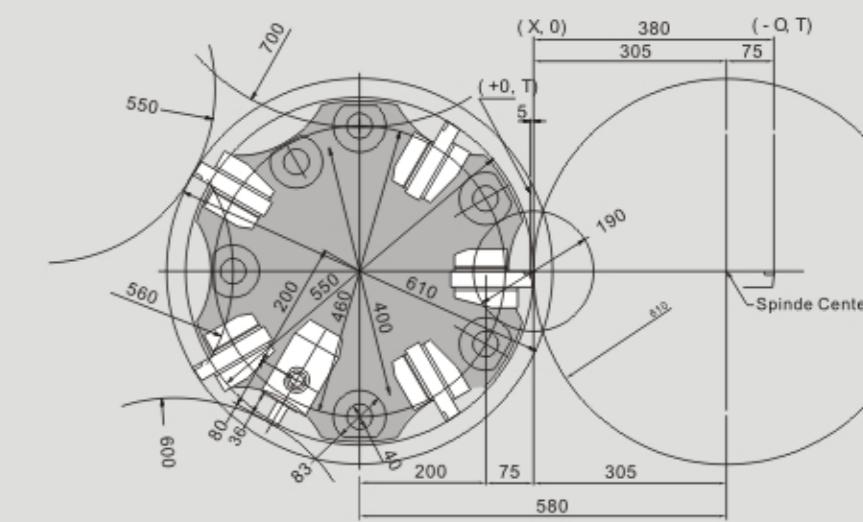
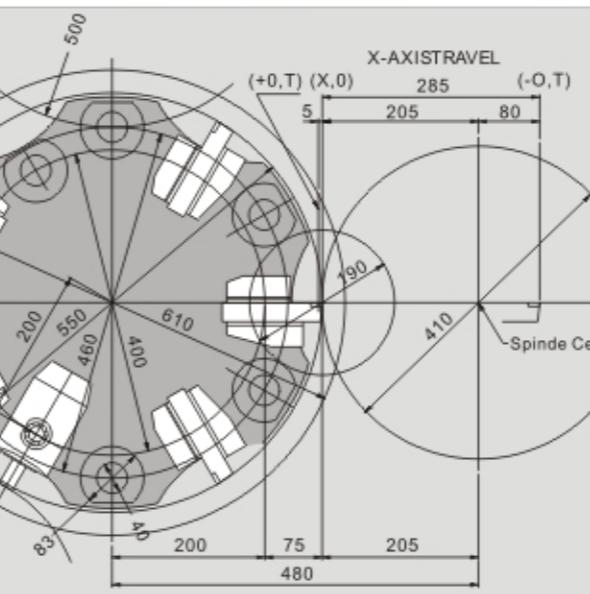
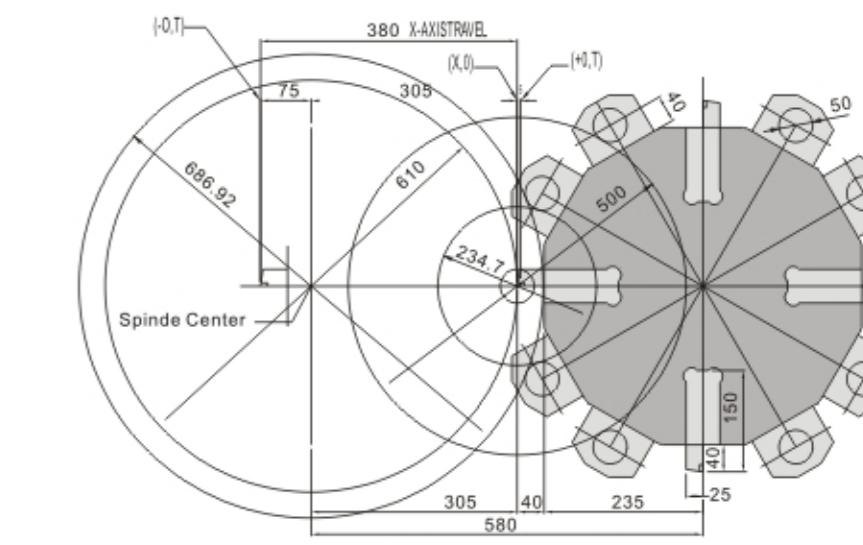
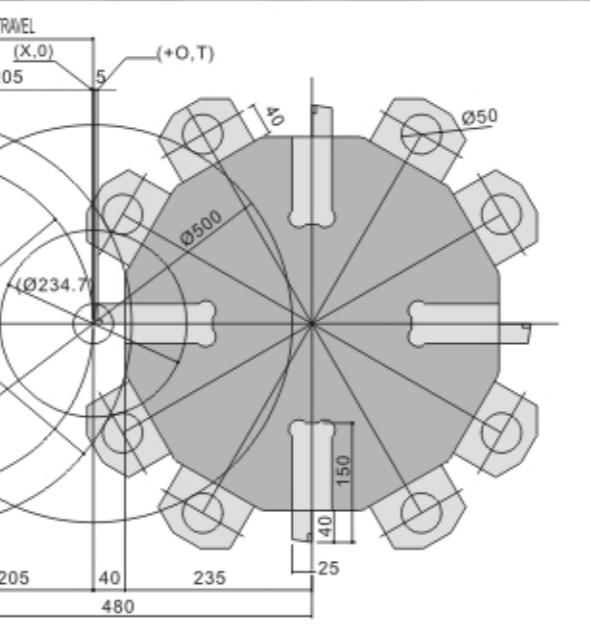
## HL-45 1000 TURRET MACHINING FIELD



## HL-45 1500 TURRET MACHINING FIELD



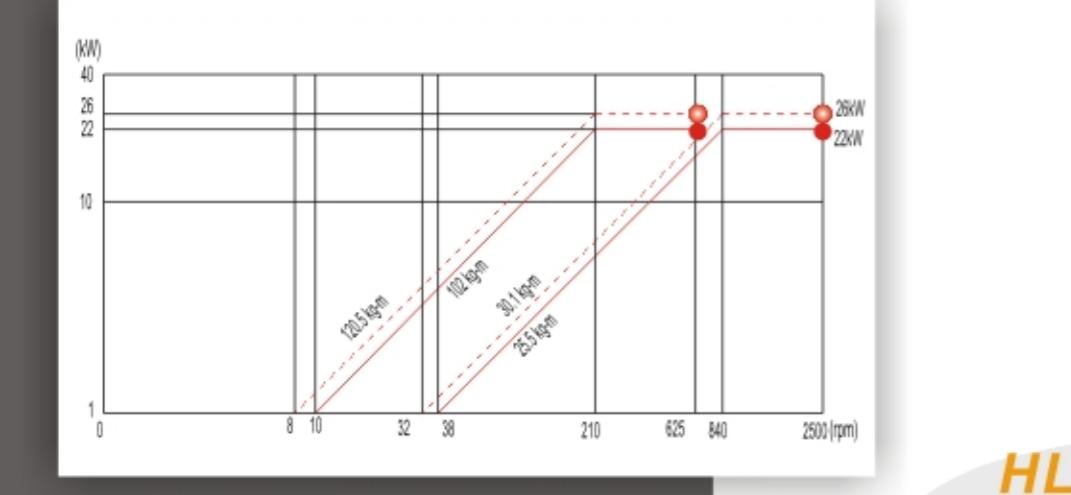
## HL-45 TURRET INTERFERENCE



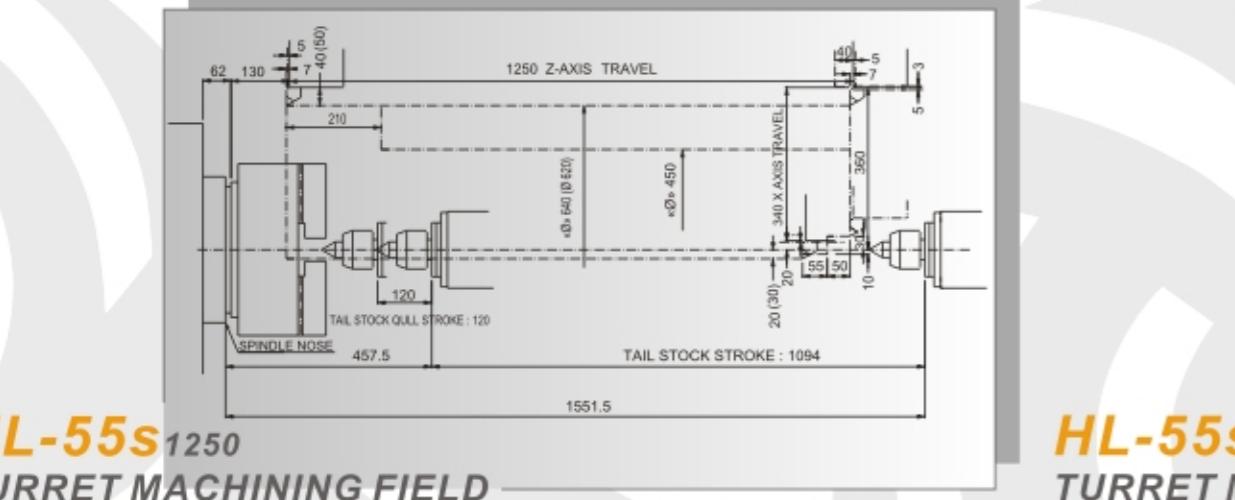
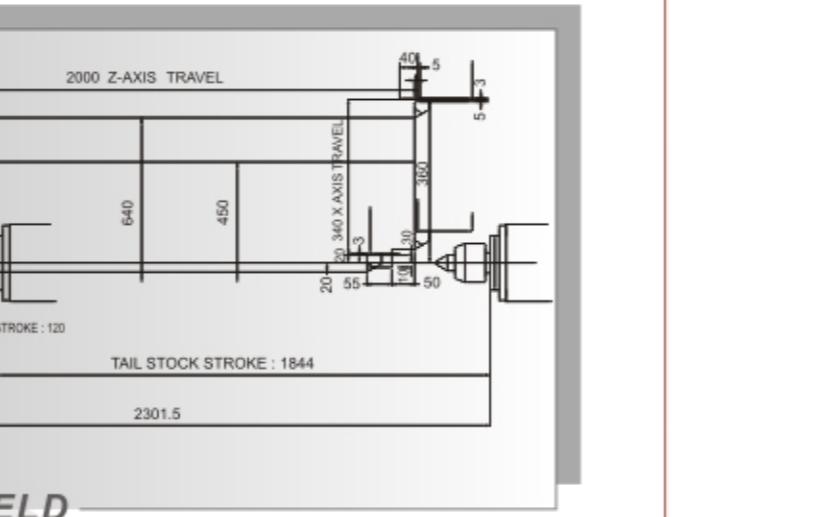
## HL-45 / C - AXIS POWER TURRET INTERFERENCE

# HL-55s 1250 / 2000 / 2500

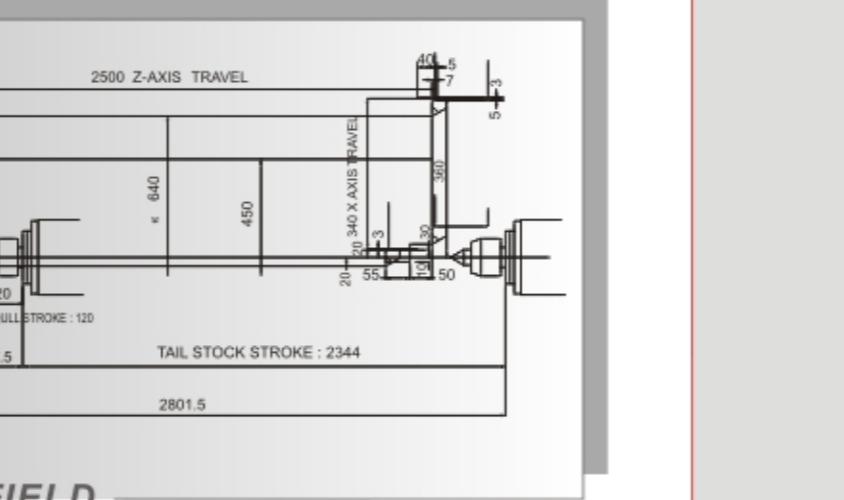
## MAIN - TORQUE CHART



**HL-55s 2000**  
TURRET MACHINING FIELD

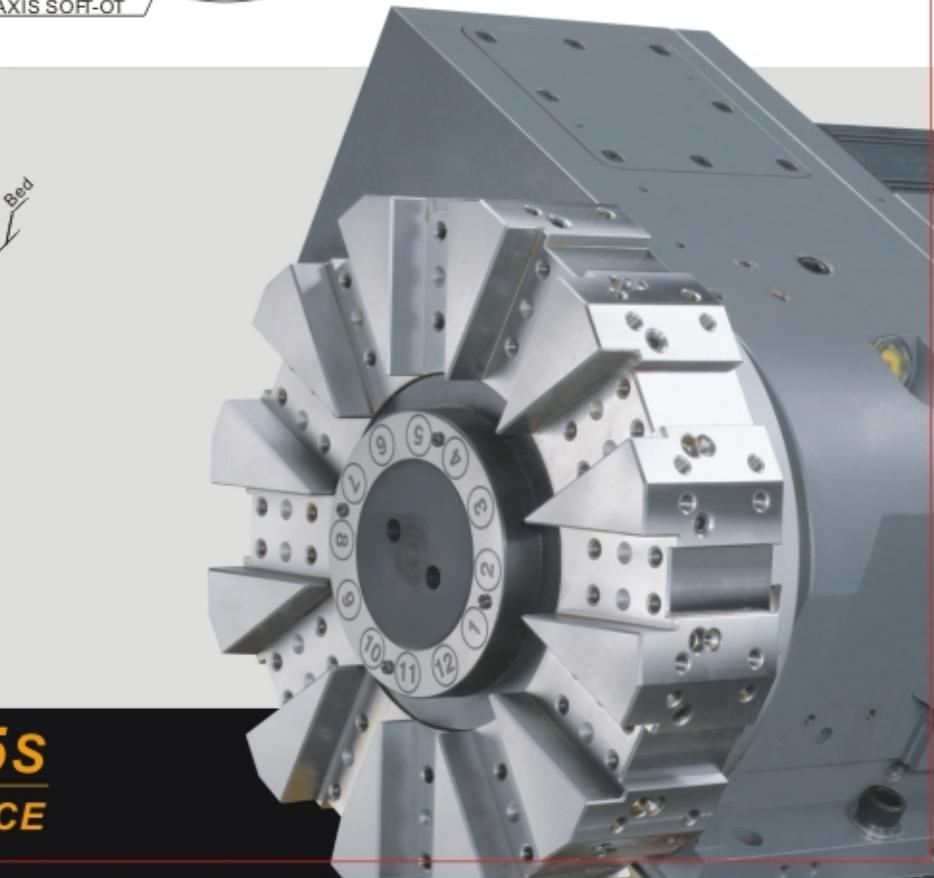
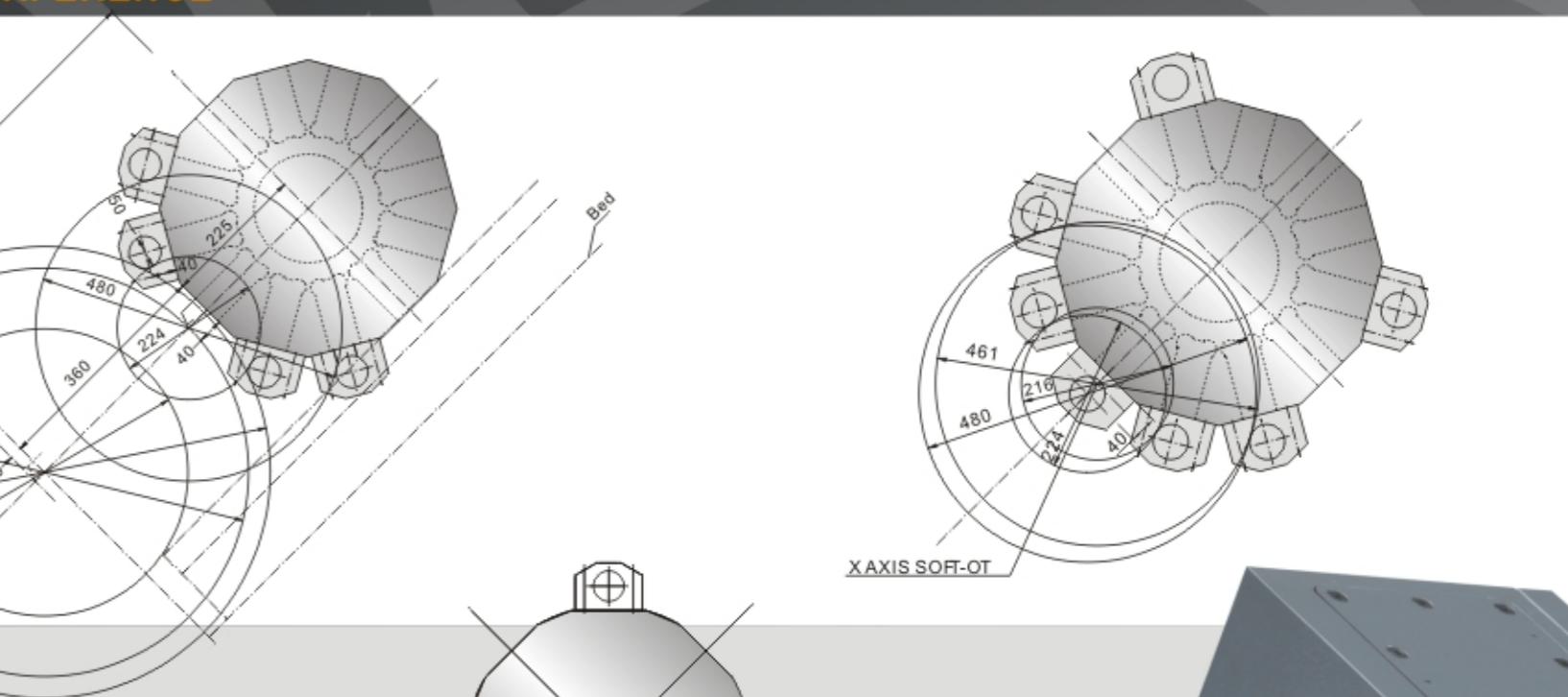


**HL-55s 1250**  
TURRET MACHINING FIELD



**HL-55s 2500**  
TURRET MACHINING FIELD

## HL-55s TURRET INTERFERENCE



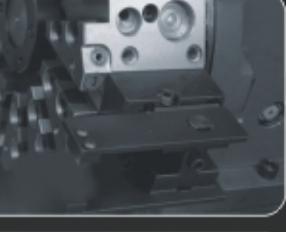
**HL-55s**  
8 STATION TURRET INTERFERENCE

# OPTIONAL ACCESSORIES



## PARTS CATCHER / CONVEYOR

The parts catcher / conveyor permits for efficient parts collection and unmanned operation.



## BAR PULLER

Capacity Ø12-Ø45mm, adjusted easily by screw.



## GENIE ROBOT

Parts handing robot and carrousel for full automatic operation.



## BAR FEEDER

The optional bar feeder allows for fully automatic loading of stock.



## ELECTRIC CABINET COOLING SYSTEM

4000BUT capacity provides constant temperature in the electrical cabinet to ensure designed performance at all climate conditions.



## POWER TRANSFORMER

380V / 415V / 440V



## WORKPIECE TRANSFER ROBOT



## CE SAFETY GUARD

## OPTIONAL FEATURES ▾

|                                 |                                 |
|---------------------------------|---------------------------------|
| 23-station "Durga" Power Turret | 3 color alarm lamp              |
| X-axis linear scale             | Collet chuck                    |
| Automatic Bar feeder            | Parts catcher / conveyor        |
| Auto door                       | Electric Cabinet cooling system |
| Bar puller                      | Power tool turret (C-axis)      |
| Workpiece counter (external)    | VDI driven tool holder          |

# STANDARD & OPTION

(○ STANDARD ○ OPTION)

| ITEM                                      | HL-25 | HL-25D | HL-25DM | HL-25DMS | HL-35 | HL-35D | HL-35DM | HL-35DMSY | HL-451000 | HL-451500 | HL-55S1250 | HL-55S2000 | HL-55S2500 |
|---|-------|--------|---------|----------|-------|--------|---------|-----------|-----------|-----------|------------|------------|------------|
| 1 8-Station Turret                        | ●     |        |         |          |       |        |         |           |           |           |            | ●          | ●          |
| 2 12-Station Turret                       | ●     |        |         |          |       | ●      |         |           | ●         | ●         | ●          | ●          | ●          |
| 3 23-Station "Durga" Turret               |       |        | ●       |          |       |        |         |           |           |           |            |            |            |
| 4 12-Station VDI Power Turret (C-axis)    | ●     |        |         |          |       |        | ●       |           |           | ●         | ●          | ●          | ●          |
| 5 23-Station Power Turret (C-axis)        |       |        |         |          | ●     | ●      | ●       | ●         | ●         | ●         | ●          | ●          | ●          |
| 6 Hydraulic chuck with 1 set of Hard jaws | ●     | ●      | ●       | ●        | ●     | ●      | ●       | ●         | ●         | ●         | ●          | ●          | ●          |
| 7 Soft jaws (3 sets)                      | ●     | ●      | ●       | ●        | ●     | ●      | ●       | ●         | ●         | ●         | ●          | ●          | ●          |
| 8 Hydraulic power unit                    | ●     | ●      | ●       | ●        | ●     | ●      | ●       | ●         | ●         | ●         | ●          | ●          | ●          |
| 9 Automatic lubricating system            | ●     | ●      | ●       | ●        | ●     | ●      | ●       | ●         | ●         | ●         | ●          | ●          | ●          |
| 10 Boring bar holders & sockets           | ●     | ●      | ●       | ●        | ●     | ●      | ●       | ●         | ●         | ●         | ●          | ●          | ●          |
| 11 OD Turning tool holders                | ●     | ●      | ●       | ●        | ●     | ●      | ●       | ●         | ●         | ●         | ●          | ●          | ●          |
| 12 Built-in work light                    | ●     | ●      | ●       | ●        | ●     | ●      | ●       | ●         | ●         | ●         | ●          | ●          | ●          |
| 13 Bolts & leveling pads for installation | ●     | ●      | ●       | ●        | ●     | ●      | ●       | ●         | ●         | ●         | ●          | ●          | ●          |
| 14 Operator's & maintenance manuals       | ●     | ●      | ●       | ●        | ●     | ●      | ●       | ●         | ●         | ●         | ●          | ●          | ●          |
| 15 Chuck air blow                         | ●     | ●      | ●       | ●        | ●     | ●      | ●       | ●         | ●         | ●         | ●          | ●          | ●          |
| 16 Workpiece counter (internal)           | ●     | ●      | ●       | ●        | ●     | ●      | ●       | ●         | ●         | ●         | ●          | ●          | ●          |
| 17 Heat exchanger                         | ●     | ●      | ●       | ●        | ●     | ●      | ●       | ●         | ●         | ●         | ●          | ●          | ●          |
| 18 Automatic tailstock                    | ●     | ●      | ●       | ●        | ●     | ●      | ●       | ●         | ●         | ●         | ●          | ●          | ●          |
| 19 Coolant supply system                  | ●     | ●      | ●       | ●        | ●     | ●      | ●       | ●         | ●         | ●         | ●          | ●          | ●          |
| 20 Chip conveyor & bucket                 | ●     | ●      | ●       | ●        | ●     | ●      | ●       | ●         | ●         | ●         | ●          | ●          | ●          |
| 21 Power transformer                      | ●     | ●      | ●       | ●        | ●     | ●      | ●       | ●         | ●         | ●         | ●          | ●          | ●          |
| 22 Sub-spindle                            |       |        | ●       |          |       |        |         |           | ●         |           |            |            |            |
| 23 X-axis linear scale                    | ●     | ●      | ●       | ●        | ●     | ●      | ●       | ●         | ●         | ●         | ●          | ●          | ●          |
| 24 Automatic Bar feeder                   | ●     | ●      | ●       | ●        | ●     | ●      | ●       | ●         | ●         | ●         | ●          | ●          | ●          |
| 25 Auto door                              | ●     | ●      | ●       | ●        | ●     | ●      | ●       | ●         | ●         | ●         | ●          | ●          | ●          |
| 26 Bar puller                             | ●     | ●      | ●       | ●        | ●     | ●      | ●       | ●         | ●         | ●         | ●          | ●          | ●          |
| 27 Workpiece counter (external)           | ●     | ●      | ●       | ●        | ●     | ●      | ●       | ●         | ●         | ●         | ●          | ●          | ●          |
| 28 3 color alarm lamp                     | ●     | ●      | ●       | ●        | ●     | ●      | ●       | ●         | ●         | ●         | ●          | ●          | ●          |
| 29 Collet chuck                           | ●     | ●      | ●       | ●        | ●     | ●      | ●       | ●         | ●         | ●         | ●          | ●          | ●          |
| 30 Parts catcher / conveyor               | ●     | ●      | ●       | ●        | ●     | ●      | ●       | ●         | ●         | ●         | ●          | ●          | ●          |
| 31 Electric cabinet cooling system        | ●     | ●      | ●       | ●        | ●     | ●      | ●       | ●         | ●         | ●         | ●          | ●          | ●          |
| 32 Power driven tool holder               | ●     |        | ●       | ●        | ●     | ●      | ●       | ●         | ●         | ●         | ●          | ●          | ●          |
| 33 Robot system                           | ●     | ●      | ●       | ●        | ●     | ●      | ●       | ●         | ●         | ●         | ●          | ●          | ●          |
| 34 CE safety guard                        | ●     | ●      | ●       | ●        | ●     | ●      | ●       | ●         | ●         | ●         | ●          | ●          | ●          |

Design and specifications are subject to change without prior notice.

| SPECIFICATIONS           |  | HL-25N |              |  |                      | HL-25D |                      |  |                      | HL-25DM |             |  |      | HL-25DMS    |  |                      |  | SPECIFICATIONS       |  | HL-35                |  |             |  | HL-35D |             |  |                      | HL-35DM |                      |  |  | HL-35DMSY |  |  |  |
|--------------------------|--|--------|--------------|--|----------------------|--------|----------------------|--|----------------------|---------|-------------|--|------|-------------|--|----------------------|--|----------------------|--|----------------------|--|-------------|--|--------|-------------|--|----------------------|---------|----------------------|--|--|-----------|--|--|--|
| CAPACITY                 | Max. Swing Overbed                     | mm     | Ø515         |  | Ø515                 |        | Ø515                 |  | Ø400                 |         | CAPACITY    | Max. Swing Overbed                     | mm   | Ø500        |  | Ø500                 |  | Ø500                 |  | Ø460                 |  | CAPACITY    | Max. Swing Overbed                     | mm     | Ø500        |  | Ø500                 |         | Ø460                 |  |  |           |  |  |  |
|                          | Max. Turning Diameter                  | mm     | Ø250         |  | Ø250                 |        | Ø350                 |  | Ø300                 |         |             | Max. Turning Diameter                  | mm   | Ø360        |  | Ø360                 |  | Ø400                 |  | Ø400                 |  |             | Max. Turning Diameter                  | mm     | Ø360        |  | Ø360                 |         | Ø400                 |  |  |           |  |  |  |
|                          | Max. Turning Length                    | mm     | 580          |  | 580                  |        | 580                  |  | 530                  |         |             | Max. Turning Length                    | mm   | 675         |  | 675                  |  | 600                  |  | 540                  |  |             | Max. Turning Length                    | mm     | 675         |  | 675                  |         | 600                  |  |  |           |  |  |  |
|                          | Max. Swing over slide bed              | mm     | —            |  | —                    |        | —                    |  | —                    |         |             | Max. Swing over slide bed              | mm   | —           |  | —                    |  | —                    |  | —                    |  |             | Max. Swing over slide bed              | mm     | —           |  | —                    |         | —                    |  |  |           |  |  |  |
|                          | Hole (Bar Capacity)                    | mm     | Ø51.5        |  | Ø51.5                |        | Ø51.5                |  | Ø51.5                |         |             | Hole (Bar Capacity)                    | mm   | Ø74.5       |  | Ø74.5                |  | Ø74.5                |  | Ø74.5                |  |             | Hole (Bar Capacity)                    | mm     | Ø74.5       |  | Ø74.5                |         | Ø74.5                |  |  |           |  |  |  |
| TRAVEL                   | X-axis                                 | mm     | 177          |  | 177                  |        | 177                  |  | 152                  |         | TRAVEL      | X-axis                                 | mm   | 260         |  | 202                  |  | 202                  |  | 202                  |  | TRAVEL      | X-axis                                 | mm     | 260         |  | 202                  |         | 202                  |  |  |           |  |  |  |
|                          | Z-axis                                 | mm     | 580          |  | 580                  |        | 580                  |  | 530                  |         |             | Z-axis                                 | mm   | 690         |  | 700                  |  | 700                  |  | 640                  |  |             | Z-axis                                 | mm     | 690         |  | 700                  |         | 640                  |  |  |           |  |  |  |
|                          | Y-axis                                 | mm     | —            |  | —                    |        | —                    |  | —                    |         |             | Y-axis                                 | mm   | —           |  | —                    |  | —                    |  | —                    |  |             | Y-axis                                 | mm     | —           |  | —                    |         | 120(+60/-60)         |  |  |           |  |  |  |
|                          | W-axis                                 | mm     | —            |  | —                    |        | —                    |  | 550                  |         |             | W-axis                                 | mm   | —           |  | —                    |  | —                    |  | 600                  |  |             | W-axis                                 | mm     | —           |  | —                    |         | 600                  |  |  |           |  |  |  |
| SPINDLE                  | Speed                                  | rpm    | 4800         |  | 4800                 |        | 4800                 |  | 4800                 |         | SPINDLE     | Speed                                  | rpm  | 4000        |  | 4000                 |  | 4000                 |  | 4000                 |  | SPINDLE     | Speed                                  | rpm    | 4000        |  | 4000                 |         | 4000                 |  |  |           |  |  |  |
|                          | Chuck Size                             | inch   | 8"           |  | 8"                   |        | 8"                   |  | 8"                   |         |             | Chuck Size                             | inch | 10"         |  | 10"                  |  | 10"                  |  | 10"                  |  |             | Chuck Size                             | inch   | 10"         |  | 10"                  |         | 10"                  |  |  |           |  |  |  |
|                          | Spindle Nose                           |        | A2-6         |  | A2-6                 |        | A2-6                 |  | A2-6                 |         |             | Spindle Nose                           |      | A2-8        |  | A2-8                 |  | A2-8                 |  | A2-8                 |  |             | Spindle Nose                           |        | A2-8        |  | A2-8                 |         | A2-8                 |  |  |           |  |  |  |
|                          | Through Spindle Hole Diameter          | mm     | Ø61          |  | Ø61                  |        | Ø61                  |  | Ø61                  |         |             | Through Spindle Hole Diameter          | mm   | Ø87         |  | Ø87                  |  | Ø87                  |  | Ø87                  |  |             | Through Spindle Hole Diameter          | mm     | Ø87         |  | Ø87                  |         | Ø87                  |  |  |           |  |  |  |
|                          | Front Bearing ID./OD.                  | mm     | Ø100 / Ø150  |  | Ø100 / Ø150          |        | Ø100 / Ø150          |  | Ø100 / Ø150          |         |             | Front Bearing ID./OD.                  | mm   | Ø130 / Ø200 |  | Ø130 / Ø200          |  | Ø130 * Ø200          |  | Ø130 / Ø200          |  |             | Front Bearing ID./OD.                  | mm     | Ø130 / Ø200 |  | Ø130 / Ø200          |         | Ø130 / Ø200          |  |  |           |  |  |  |
|                          | Rear Bearing ID./OD.                   | mm     | Ø90 / Ø140   |  | Ø90 / Ø140           |        | Ø90 / Ø140           |  | Ø90 / Ø140           |         |             | Rear Bearing ID./OD.                   | mm   | Ø120 / Ø180 |  | Ø120 / Ø180          |  | Ø120 * Ø180          |  | Ø120 / Ø180          |  |             | Rear Bearing ID./OD.                   | mm     | Ø120 / Ø180 |  | Ø120 / Ø180          |         | Ø120 / Ø180          |  |  |           |  |  |  |
|                          | Spindle Motor                          |        | αP22 / 6000i |  | αP22 / 6000i         |        | αP22 / 6000i         |  | αP22 / 6000i         |         |             | Spindle Motor                          |      | αP30/6000i  |  | αP30/6000i           |  | αP30/6000i           |  | αP30/6000i           |  |             | Spindle Motor                          |        | αP30/6000i  |  | αP30/6000i           |         | αP30/6000i           |  |  |           |  |  |  |
|                          | Spindle Motor Output(cont/30 mins)     | kW     | 11 / 15      |  | 11 / 15              |        | 11 / 15              |  | 11 / 15              |         |             | Spindle Motor Output(cont/30 mins)     | kW   | 15 / 18.5   |  | 15 / 18.5            |  | 15 / 18.5            |  | 15 / 18.5            |  |             | Spindle Motor Output(cont/30 mins)     | kW     | 15 / 18.5   |  | 15 / 18.5            |         | 15 / 18.5            |  |  |           |  |  |  |
|                          | Spindle Motor Torque                   | Nm     | 238          |  | 238                  |        | 238                  |  | 238                  |         |             | Spindle Motor Torque                   | Nm   | 345         |  | 345                  |  | 345                  |  | 345                  |  |             | Spindle Motor Torque                   | Nm     | 345         |  | 345                  |         | 345                  |  |  |           |  |  |  |
|                          | Sub-spindle Speed                      | rpm    | —            |  | —                    |        | —                    |  | 5000                 |         |             | Sub-spindle Speed                      | rpm  | —           |  | —                    |  | —                    |  | 5000                 |  |             | Sub-spindle Speed                      | rpm    | —           |  | —                    |         | 5000                 |  |  |           |  |  |  |
| SUB-SPINDLE              | Sub-spindle Chuck Size                 |        | —            |  | —                    |        | —                    |  | 6"                   |         | SUB-SPINDLE | Sub-spindle Chuck Size                 |      | —           |  | —                    |  | —                    |  | 8"                   |  | SUB-SPINDLE | Sub-spindle Chuck Size                 |        | —           |  | —                    |         | A2-6                 |  |  |           |  |  |  |
|                          | Sub-spindle Nose                       |        | —            |  | —                    |        | —                    |  | A2-5                 |         |             | Sub-spindle Nose                       |      | —           |  | —                    |  | —                    |  | —                    |  |             | Sub-spindle Nose                       |        | —           |  | —                    |         | —                    |  |  |           |  |  |  |
|                          | Hole(Bar Capacity)                     | mm     | —            |  | —                    |        | —                    |  | —                    |         |             | Hole(Bar Capacity)                     | mm   | —           |  | —                    |  | —                    |  | —                    |  |             | Hole(Bar Capacity)                     | mm     | —           |  | —                    |         | —                    |  |  |           |  |  |  |
|                          | Sub-spindle Front Bearing ID./OD.      | mm     | —            |  | —                    |        | —                    |  | Ø85 / Ø130           |         |             | Sub-spindle Front Bearing ID./OD.      | mm   | —           |  | —                    |  | —                    |  | —                    |  |             | Sub-spindle Front Bearing ID./OD.      | mm     | —           |  | —                    |         | —                    |  |  |           |  |  |  |
|                          | Sub-spindle Rear Bearing ID./OD.       | mm     | —            |  | —                    |        | —                    |  | Ø75 / Ø115           |         |             | Sub-spindle Rear Bearing ID./OD.       | mm   | —           |  | —                    |  | —                    |  | —                    |  |             | Sub-spindle Rear Bearing ID./OD.       | mm     | —           |  | —                    |         | —                    |  |  |           |  |  |  |
|                          | Sub-spindle Motor                      |        | —            |  | —                    |        | —                    |  | α 6/10000i           |         |             | Sub-spindle Motor                      |      | —           |  | —                    |  | —                    |  | —                    |  |             | Sub-spindle Motor                      |        | —           |  | —                    |         | —                    |  |  |           |  |  |  |
|                          | Sub-spindle Motor Output(cont/30 mins) | kW     | —            |  | —                    |        | —                    |  | 5.5 / 7.5            |         |             | Sub-spindle Motor Output(cont/30 mins) | kW   | —           |  | —                    |  | —                    |  | —                    |  |             | Sub-spindle Motor Output(cont/30 mins) | kW     | —           |  | —                    |         | —                    |  |  |           |  |  |  |
|                          | Sub-spindle Motor Torque               | kg-m   | —            |  | —                    |        | —                    |  | 95                   |         |             | Sub-spindle Motor Torque               | kg-m | —           |  | —                    |  | —                    |  | —                    |  |             | Sub-spindle Motor Torque               | kg-m   | —           |  | —                    |         | —                    |  |  |           |  |  |  |
|                          | Number of Tool Station                 |        | 8.12         |  | 23(O.D.:12 Stations) |        | 23(O.D.:12 Stations) |  | 23(O.D.:12 Stations) |         | TURRET      | Number of Tool Station                 |      | 12          |  | 23(O.D.:12 Stations) |  | 23(O.D.:12 Stations) |  | 23(O.D.:12 Stations) |  | TURRET      | Number of Tool Station                 |        | 12          |  | 23(O.D.:12 Stations) |         | 23(O.D.:12 Stations) |  |  |           |  |  |  |
|                          |  |        | —            |  | (I.D.:11 Stations)   |        | (I.D.:11 Stations)   |  | (I.D.:11 Stations)   |         |             |  |      | —           |  | (I.D.:11 Stations)   |  | (I.D.:11 Stations)   |  | (I.D.:11 Stations)   |  |             |  |        | —           |  | (I.D.:11 Stations)   |         | (I.D.:11 Stations)   |  |  |           |  |  |  |
| POWER TURRET WITH C-AXIS | Turning Tool OD.                       | mm     | □25 / □20    |  | □20                  |        | □20                  |  | □20                  |         |             | Turning Tool OD                        | mm   | □25         |  | □25                  |  | □25                  |  | □25                  |  |             | Turning Tool OD                        | mm     | □25         |  | □25                  |         | □25                  |  |  |           |  |  |  |
|                          | Turning Tool ID.                       | mm     | Ø40 / Ø32    |  | Ø32                  |        | Ø40                  |  | Ø32                  |         |             | Turning Tool ID                        | mm   | Ø50         |  | Ø40                  |  | Ø40                  |  | Ø40                  |  |             | Turning Tool ID                        | mm     | Ø50         |  | Ø40                  |         | Ø40                  |  |  |           |  |  |  |
|                          | Power Tool Shank Diameter              | mm     | VDI-30       |  | —                    |        | Ø20                  |  | Ø16(ER25)            |         |             | Power Tool Shank Diameter              | mm   | VDI-40      |  | —                    |  | Ø20(ER32)            |  | Ø20(ER32)            |  |             | Power Tool Shank Diameter              | mm     | VDI-40      |  | —                    |         | Ø20(ER32)            |  |  |           |  |  |  |
|                          | Power Tool Speed Range at Axial        | rpm    | 3000         |  | —                    |        | 3000                 |  | 3000                 |         |             | Power Tool Speed Range at Axial        | rpm  | 3000        |  | —                    |  | 3000                 |  | 3000                 |  |             | Power Tool Speed Range at Axial        | rpm    | 3000        |  | —                    |         | 3000                 |  |  |           |  |  |  |

# SPECIFICATIONS

| ITEM                                 | HL-45 1000                                | HL-45 1500  | HL-55S 1250 | HL-55S 2000 | HL-55S 2500 |
|--------------------------------------|---|-------------|-------------|-------------|-------------|
| CAPACITY                             | Max. Swing Overbed mm                     | Ø635        | Ø635        | Ø727        | Ø710        |
|                                      | Max. Turning Diameter mm                  | Ø600        | Ø600        | Ø640        | Ø640        |
|                                      | Max. Turning Length mm                    | 940         | 1440        | 1070        | 1820        |
|                                      | Max. Swing over slide bed mm              | —           | —           | —           | 2320        |
|                                      | Hole (Bar Capacity) mm                    | Ø89.5       | Ø89.5       | Ø117        | Ø117        |
| TRAVEL                               | X-axis mm                                 | 285         | 355         | 340         | 340         |
|                                      | Z-axis mm                                 | 1000        | 1500        | 1250        | 2000        |
|                                      | Y-axis mm                                 | —           | —           | —           | —           |
|                                      | W-axis mm                                 | —           | —           | —           | —           |
| SPINDLE                              | Speed rpm                                 | 2500        | 2500        | 2500        | 2500        |
|                                      | Chuck Size inch                           | 12"         | 12"         | 15"         | 15"         |
|                                      | Spindle Nose                              | A2-8        | A2-8        | A2-11       | A2-11       |
|                                      | Through Spindle Hole Diameter mm          | Ø110        | Ø110        | Ø132        | Ø132        |
|                                      | Front Bearing ID./OD. mm                  | Ø160 / Ø240 | Ø160 / Ø240 | Ø170 / Ø230 | Ø170 / Ø230 |
|                                      | Rear Bearing ID./OD. mm                   | Ø150 / Ø225 | Ø150 / Ø225 | Ø160 / Ø220 | Ø160 / Ø220 |
|                                      | Spindle Motor                             | αP40/6000i  | αP40/6000i  | α22 / 7000i | α22 / 7000i |
|                                      | Spindle Motor Output(cont/30 mins) kW     | 18.5 / 22   | 18.5 / 22   | 22 / 26     | 22 / 26     |
|                                      | Spindle Motor Torque Nm                   | 656         | 656         | 1181        | 1181        |
|                                      | Sub-spindle Speed rpm                     | —           | —           | —           | —           |
| SUB-SPINDLE                          | Sub-spindle Chuck Size                    | —           | —           | —           | —           |
|                                      | Sub-spindle Nose                          | —           | —           | —           | —           |
|                                      | Hole(Bar Capacity) mm                     | —           | —           | —           | —           |
|                                      | Sub-spindle Front Bearing ID./OD. mm      | —           | —           | —           | —           |
|                                      | Sub-spindle Rear Bearing ID./OD. mm       | —           | —           | —           | —           |
|                                      | Sub-spindle Motor                         | —           | —           | —           | —           |
|                                      | Sub-spindle Motor Output(cont/30 mins) kW | —           | —           | —           | —           |
|                                      | Sub-spindle Motor Torque Nm               | —           | —           | —           | —           |
|                                      | Number of Tool Station                    | 12          | 12          | 8.12        | 8.12        |
|                                      | —   | —           | —           | —           | 8.12        |
| TURRET                               | Turning Tool OD mm                        | □25         | □25         | □25         | □25         |
|                                      | Turning Tool ID mm                        | Ø50         | Ø50         | Ø50         | Ø50         |
| POWER TURRET WITH C-AXIS             | Power Tool Shank Diameter mm              | VDI-40      | VDI-40      | —           | —           |
|                                      | Power Tool Speed Range at Axial rpm       | 3000        | 3000        | —           | —           |
|                                      | Power Tool Speed Range at Radial rpm      | 3000        | 3000        | —           | —           |
|                                      | Power Tool Motor                          | α3 / 10000i | α3 / 10000i | —           | —           |
|                                      | Power Tool Motor Output kW                | 3.7 / 5.5   | 3.7 / 5.5   | —           | —           |
|                                      | —   | —           | —           | —           | —           |
| TAILSTOCK                            | Travel mm                                 | 830         | 1330        | 1094        | 1844        |
|                                      | Quill Diameter mm                         | Ø120        | Ø120        | Ø120        | Ø120        |
|                                      | Quill Travel mm                           | 120         | 120         | 120         | 120         |
|                                      | Quill Taper                               | MT#5        | MT#5        | MT#5        | MT#5        |
|                                      | Axial Thrust of Quill kgf                 | 1178        | 1178        | 1178        | 1178        |
| FEEDRATE                             | X-axis Rapid Traverse mm/min              | 20000       | 20000       | 16000       | 16000       |
|                                      | Z-axis Rapid Traverse mm/min              | 24000       | 24000       | 20000       | 20000       |
|                                      | Y-axis Rapid Traverse mm/min              | —           | —           | —           | —           |
|                                      | W-axis Rapid Traverse mm/min              | —           | —           | —           | —           |
| DIMENSION<br>(Without chip conveyor) | Width mm                                  | 3885        | 5035        | 4355        | 5150        |
|                                      | Depth mm                                  | 2131        | 2131        | 2000        | 2000        |
|                                      | Height mm                                 | 2040        | 2040        | 2130        | 2130        |
| WEIGHT                               | Weight kg                                 | 6400        | 7500        | 9000        | 11000       |
|                                      |   |             |             |             | 13000       |

# QUALITY ASSURANCE

- To ensure the machine high quality requirement, FEMCO develop a inspection standard process depends on features of every models.
- To achieve a comprehensive test of the autonomy, Our FEMCO engineer will follow the CNS/JIS standard.
- Guarantee the best performance and quality assurance.



## I. Dynamic balance testing

To satisfy the higher rotating and positioning accuracy.



## II. Laser testing

International Certificated Laser Testing maintain the Positioning & Repeatability accuracy.



## III. Circularity testing

Dynamic check to secured the contouring performance is ensured by the ballbar testing devices.



## IV. Table load testing

The rotary table is clamped securely by a hydraulic system, ensure excellent stability even when machining large workpieces.



# FEMCO PRODUCT LINE-UP

## HL SERIES



HL-25N



HL-25D



H L-25DM



HL-25DMS



HL-35 / 35D / 35DM



HL-35DMSY



HL-45(1000 / 1500)



HL-55S(1250 / 2000 / 2500)

## WT SERIES



WHL 55



WHL 55SP



WHL 68



WHL-68SP



WVL-F24



WVL-F24A



WVD-24c / 24x



WVL-T24

## BMC SERIES



BMC-110R1



BMC-110R2



BMC-110R2S



BMC-110R3



BMC-135R



BMC-110T2 / T3 / T4 / P



BMC-110FT2 / FT3 / FT4



BMC-135T

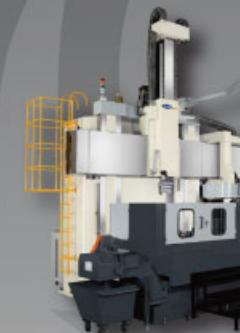


BMC-250T(8)



BMC-250T(15)

## VL SERIES



VL-12



NVL-12 / NVL-12M

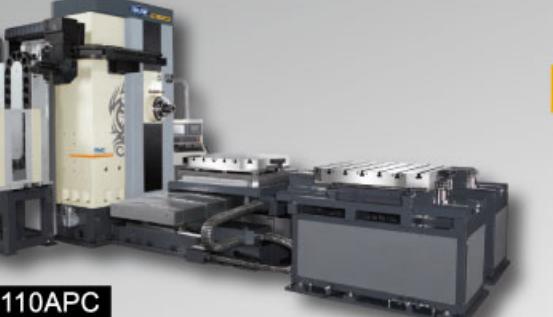


VL-25



VL-25M

## APC SERIES



BMC-110APC



F5X-630



F5X-630L