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 may be loaded on both the front and the rear disks. Set-ups are faster and easier and tool changes are automated. With the shortest chip-to-chip time in the industry, the bi-directional programming of the dual-disk design can index C.D. tools on separate disks. Further with y-axis 60 mm traverse equips with sub-spindle for long-term operation and complex machining.

Toll Free Service Line:

0800-233166

FAR EAST MACHINERY CO., LTD
Factory Automation Technology CO., LTD
No. 28, Zhongxian Rd., Fuhe Village, Minxiong Township, Chiiay County, Taiwan, R.O.C.
TEL: 886 - 5 - 2131166 FAX: 886 - 5 - 2205293

CNC HORIZONTAL LATHE

www.femco.com.tw
**HL-25N / 25D**

**UNSURPASSED HIGH SPEED**

**HIGH PERFORMANCE AND HIGH PRECISION**

---

### HL-25N SPECIAL FEATURES

- Swing over bed: ø155mm
- Max. turning diameter: ø225mm
- Max. turning length: 900mm
- Choice of 5, 10, 25 station tool turret or power turret.
- Modular design provides variety of options for cost effective combinations from bar feeders, parts conveys, tool presetters, bar puller to geared head.
- 20 tool bar capacity.
- FANUC 0i-P25 with speed range, spindle drive provides 11/39 kW output.
- Megnetic base, saddle and headstock casting.
- Precision heavy-duty linear ball guide rocker.
- Choice of FANUC or Siemens CNC control.
- The smallest footprint in its class.
- Automatic lubrication system.
- Straight bed construction.
- Most elements are fitted with linear motion guides.

### MACHINE STRUCTURE

All major components are made from high-quality steel using high-precision machine tools, ensuring accuracy and precision in design and manufacture. All components are precisely machined and hardened to ensure optimal performance and durability. CNC and 25 standard.

### TOOL PRESETTER

Precise tool presetting by 4-point contacts or a 3-point contacts with the measuring sensor. Allows for automatic positioning of tool tips and ensures precise tool location and proper alignment. Programmable by custom macros.

### DRIVE SYSTEM & BALL SCREWS

K2 axis is powered by a maintenance-free linear guide. All linear motors, shafts, and end segments are coupled directly to the ball screws. When overspeeded, there is no ball chatter or seize down. Dual precision ball screws provide smooth, precise, and repeatable operation without thermal growth.

### MANUALLY TAILSTOCK

The hydrostatically lubricated tailstock is designed with a smooth, quiet, and compact design. It is securely attached to the bed to ensure stability and precision.

### RIGHT SIDE SLIDING OPERATING:

**BOX CORRESPOND TO ERGONOMICS**

---

**SCRAPING WORKS**

Scraping is the fundamental of machine accuracy. Our experienced and skilled scraping specialists work to ensure the best and accurate scraping solutions with the accuracy better than CNC and 25 standard.
HL-25DM

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

HL-25DM SPECIAL FEATURES

- Innovative Double disc Turn, OD 12 Tools, (D 11 Tools, All ID tools position can be equipped with power tool.
- Project Manufacturing Capacity in same size machines.
- Max Swing: +450mm
- Max Turning Length: +550mm
- Max Turning Diameter: +350mm
- Riper three pieces Curved Coupings, Higher Rigidity.
- Innovative seating diagram design, same tool for front side and rear side machining.
- The main motor driven 2 disc turn tools, tool position changing is faster and higher accuracy.
- Innovative pneumatically driven clamping system, no hydraulic loss less pollution.
- Built-in parts catcher, no interference when door opens and closes.
- Smaller turner swing in same size power turn, less tooling interference.

HIGH-SPEED TURNTING

- With the new generation 23 station turn you can machine a wide range of materials in one operation. The automation process is so easy because the stop/relax functions are included. The operators can be in different positions at the same time.
- HIGH-SPEED TURNTING provides the highest precision and low maintenance. The tool-temperatur index is not affected by the position of the turn table. The turn table is re-orientated for optimal accuracy of the tool.
- Machining system with an K12 axles is powered by a maintenance design AC, same motor that are coupled directly to the ball screw. WITHOUT backlash, there is no backlash or gear drag. Double pre-tensioned ball screw provide maintenance precision repeatability with no thermal growth.

THE REVOLUTIONARY 23 STATION DUAL DISK TURRET

The 23-station dual disc turn accommodates more tools than any other machine of its type in the industry. A maximum of 11 ID drilling or milling tools can be held by the rear disc while a maximum of 23 tools can be loaded on both the front and the rear discs. 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 disc design can index O.D. tools on separate discs, further CUT your cutting time.

LOADING CONVEYOR

Built-in parts conveyor can aid the left off of the chips and controls.

REAR SYSTEM & BALL SCREWS

K12 axles is powered by a maintenance design AC, same motor that are coupled directly to the ball screw. WITHOUT backlash, there is no backlash or gear drag. Double pre-tensioned ball screw provide maintenance precision repeatability with no thermal growth.

LINEAR GUIDE WAYS

X and Z axis position linear guide ways provide stable and rigid capacity. Automatic lubrication systems provide the necessary for the lubrication of linear guide ways.

INTEGRAL SAFETY

Each EMCO DMC line is furnished standard with a hydraulic chuck, with soft and hard jaws.

Heat Exchanger System

Provides stable temperature environment lower thermal expansion and improved performance.

Fast-Fire Turn

Turner Machine Tools (T/TM/60) turning lathe.

SERVO SYSTEM & BALL SCREWS

All major components are made from Hardened steel ball screw which has been heat treated, sintered and stress relieved. Precision and compact design of machine and components as in built in the EMCO, will raise the components quality overall.
HL-25DMS
FEMCO LATEST TECHNOLOGY, WHICH ALLOWS HIGH-EFFICIENCY PRODUCTION

CNC LATHE HL-25DMS SPECIAL FEATURES
- Every 1 1/2 tools can be equipped with power tool.
- Max. Spindle: 8400rpm.
- Max. Chuck Diameter: 100mm.
- 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
- 3 and 2 zero precision linear guide ways provide stable cutting capability. Automatic lubricator installed extends the life span and reduces the friction of linear guide ways.

TOOL PRESETTER
- With automatic tool presetting, it enables tools to cutting time.

PARTS CONVEYOR
- Ball transfer conveyor that avoids the left out of the chips and costumers.

SPECIAL FEATURES
- 23 station turret specifications provided with Sub spindle for long-term operation and complex machining.

EYEBROW DESIGN
- Each FEMCO CNC lathe is finished standard with a hydraulic chuck, with soft and hard jaws.

Ergonomics
- Right side sliding operating box corresponding to ergonomics.

24 VOLS
- 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 contact ball bearings support optimized span to withstand radial, axial and combined loading. High-speed grease usage and preloading angular contact ball bearings minimize the thermal effect and enhance the rigidity and tenacity for heavy-duty cutting.

MAIN - TORQUE CHART

SUB - SPINDLE TORQUE CHART

HL-25 N
TURRET INTERFERENCE

HL-25 N/C - Axis
POWER TURRET INTERFERENCE

HL-25 D
TURRET INTERFERENCE

HL-25 N/25 D
TURRET MACHINING FIELD

HL-25 DM
TURRET MACHINING FIELD

HL-25 DM3
TURRET MACHINING FIELD

25 DM
POWER TURRET INTERFERENCE

25 DM3
POWER TURRET INTERFERENCE
HL-35 / 35D / 35DM
UNSURPASSED HIGH SPEED
HIGH PERFORMANCE AND HIGH PRECISION

CNC LATHE HL-35 SPECIAL FEATURES

- Swing over bed ø503 mm.
- Max. turning diameter ø360 mm.
- Max. turning length 975 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, special chucks, bar palier.
- ø74.5 mm bar capacity.
- "PAKLOF - P53" wide speed range spindle drive provides 15/18.5 kW output.
- 1 12" Chuck.
- Measurable base, saddle and headstock casting.

LINEAR GUIDE WAYS
3 and 2 axis precision linear guide ways incorporate extreme rigidity. Automatic lubrication system ensures the lubrication and reduces the friction of linear guide ways.

MACHINE STRUCTURE
All major components are made from high tensile strength MIDCROMAT casting, which has been heat treated. Vibration resistant spindles and precision Unimic and conical bearings provide the best possible performance, even under high feeds. Sufficient heat sink (noch in casting), allowing more specifier usage.

AUTOMATIC LUBRICATION
The automatic lubricator provides lubrication, 5-on-the-hour. Intervals to both small and large blocks.

SCRAPING WORKS
Scraping is the foundation of machine accuracy. Our experienced and specialized scraping assembly team provide the best self-balancing scraping, ensuring the highest finish. This cannot be better than CNC and 35 standard.

HIGH SPEED TURNT
Innovative sliding snappy turret with 23 tools; OD 12 Tools, ID 11 Tools.

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

DRIVE SYSTEM & BALL SCREWS
K2 axis is powered by a maintenance free digital AC servo motor that is coupled directly to the ball screw. Without gear reduction there is no backlash or acc. drop. Double preloaded ball screws provide outstanding positioning repeatability with no thermal growth.

THE ULTIMATE PERFORMANCE
HL-35DMSY

THE ULTIMATE TURNING AND MILLING CAPABILITY

HL-35DMSY SPECIAL FEATURES

- Power turret with Y-axis 250mm traverse, equipped with facing and smooth cutting function.
- Max spindles AA-65 with 0.75" hollow chuck to max 4000 rpm and 400mm max turning dia.
- Spindle and sub-spindle both have precision C-axis control function and advanced braking system.
- Single motor drive VCI and dual disc turret tool selecting is capable of machining in front and rear simultaneously.

POWER TURRET

With Y-axis 400mm traverse capable with facing, molding and drilling function.

SPINDLE MOTOR TYPE

FANUC: 5P90/10000 Sub-spindle max rpm: 12,000rpm (45º index-7500rpm)

SPINDLE MOTOR

All live tools and double disc turret driven by servomotor.

CONTROL SYSTEM

FANUC: System 18iM, Heidenhain.

THE ULTIMATE TURNING AND MILLING PERFORMANCE

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

DISC BRAKE

In main and sub spindles ensure the machining accuracy.

TOOL PRESETTER

With automatic tool presenter, Fanuc quick tool setting time.

PARTS CATCHER

Bar capacity 200mm diameter, parts catcher is spindle side with automatic bar loader for automatic machining.

DUAL-SPINDLE DESIGN

Main spindle: max. 900rpm with 0.75" chuck, spindle speed 4500rpm (max).
Sub-spindle nose: max. 600rpm with 0.75" chuck, spindle speed 5000rpm (max).

POWER TURRET

Double disc turret with 36 tools, G3 12 bars, G2 24 tools (max).
Pneumatic-driven clamping system, no pollution and energy saving.
PRECISION SPINDLE

High precision cylindrical roller bearings and angular thrust ball bearings support optimized performance 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-35/35C
TURRET MACHINING FIELD

HL-35/35DM
TURRET MACHINING FIELD

HL-35/35DMSY
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 ø35 mm.
- Max. turning diameter ø500 mm.
- Max. turning length 980/1640 mm.
- Spindle speed 2200 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.
- 400-9 mm bar capacity.
- LANUC / P430 wide speed range spindle drive provides 16.5/21 kW output.
- 13" table.
- Meehanite base, saddle and headstock casting.

**LINEAR GUIDE WAYS**

K and Z axis precision linear ways provide consistent turning repeatability. Automatic lubrication system ensures the machine and reduces the friction of linear guide ways.

**MACHINE STRUCTURE**

Diagnosing the performance of machine accuracy. Our experienced and trained machine building mechanics provide the best and accurate along with the accuracy better than DIN and ISO standard.

**SCRAPING WORKS**

Each FANUC CNC table is furnished with an hydraulic chuck, and soft and hard stops.

**AUTOMATIC LUBRICATION**

The automatic lubricator rotates lubricant. 3-speeds in 0.35 mm intervals is to both slideways and ballscrews.

**CAGE POWER TOLERANCE**

High performance Cage design eliminates transfering and turning units.

**DRIVE SYSTEM & BALL SCREW**

XZ axis is powered by a maintenance free digital AC servo motors that are coupled directly to the ball screw. Without gears, it reduces the total backlash of the ball screw. Double precision ball screws provide excellent positioning with no thermal growth.

**PROGRAMMABLE TAILSTOCKS**

Programmable tailstock quill can be directed from the operator’s screen or NC programs. It rotates set up time while increasing productivity.

**BACK TAPER BACKGROUND**

High precision collet system bearings and hardened ball turret unit combines to withstand radial, axial and combined loads. High speed precision collet provides excellent accuracy and uniformity in rigidity and durability for heavy duty cutting.

**THE HIGHLY RIGID BODY WITH ROLLER GUIDES, OFFER STABLE MACHINING AND EXCELLENT COST PERFORMANCE**
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: ø646 mm
- Max. turning length: up to 2220 mm
- FANUC 22i wide speed range motor with 27F gear box.
- Drive of X, Z, U system turret.
- 15' Chuck (up to 22'' opt.)
- Machiniste base, saddle and teatsstock casting.
- Precision heavy duty face ways.
- Overload protection on X, Z axis.
- Automatic clamping system.
- High rigidity hydraulics backlash.

SLANT BED CONSTRUCTION

All degrees slant bed design allows for easy loading, changings and maintenance of tooling.

FULLY PROGRAMMABLE TAILSTOCK

Fully programmable tailstock is available to be controlled from the operator's panel. It reduces set up time thus increasing productivity.

SCRAPING WORKS

Designing the fundamental of machine accuracy. Out experienced and specialized scraping teams provide the best and accurate scraping surfaces with the accuracy nearer than BT3 and BT5 standard.

RIGIDITY BOX WAYS

Each TNGO CRN way is finished with a hydraulic strut to maintain rigidity and precise motion accuracy.

DRIVE SYSTEM & BALL SCREWS

X, Z axis is powered by a servomotor free digital AC, servomotor motors that are coupled directly to the ball screw. Without gears inserted there is no radial backlash or shaft sag. Double preloaded ball screws provide optimized positioning repeatability with its thermal growth.

HIGH SPEED TURRET

High speed semi-durable tool turret provides high performance and accurate positioning.

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 affect 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 C - Axis
Power Turret Interference
OPTIONAL ACCESSORIES

POWER TRANSFORMER
380V / 415V / 440V

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

WORKPIECE TRANSFER ROBOT

BAR PULLER
Capacity 12-24mm, adjusted easily by screw.

SAFETY GUARD

GENIE ROBOT
Parts handing robot and carousel for full automatic operation.

BAR FEEDER
The optional bar feeder allows for fully automatic feeding of stock.

ELECTRIC CABINET COOLING SYSTEM
4000W/1200W, capacity prevents cabinet temperature in the electrical cabinet to ensure designed performance at all climate conditions.

OPTIONAL FEATURES

2D-station "Dorga" Power: Turret
3 color alarm temp:
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)
Workplace counter (external): VDI driven tool holder

STANDARD & OPTION

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>5-station Tunnel</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3-station Tunnel</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3-station &quot;Dorga&quot; Tunnel</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-station VDI Power Turret (C-axis)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-station Power Turret (C-axis)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydraulic chuck with 1 set of hard jaws</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soft jaws (3 sets)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydraulic power unit</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Automatic lubrication system</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>On/off bar holders &amp; sockets</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10C Turning tool holders</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Button work light</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bots &amp; reversing parts for installation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operator's &amp; maintenance menus</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chuck air blower</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Workplace source (internal)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coolant exchanger</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Automatic: telephone</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coolant supply system</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chip conveyer &amp; bucket</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power transformer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sub spindle</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>X-axis linear scale</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Automatic Bar Feeder</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Auto door</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bar puller</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Workplace counter (external)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 color alarm temp</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collet chuck</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parts catcher / conveyor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electric cabinet cooling system</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power tool turret (C-axis)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Robot system</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ES safety guard</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Design and specifications are subject to change without prior notice.
<table>
<thead>
<tr>
<th>Item</th>
<th>HL-35N</th>
<th>HL-35D</th>
<th>HL-35M</th>
<th>HL-35MDS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CAPACITY</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. Swaging Diameter</td>
<td>Ø45/15</td>
<td>Ø45/15</td>
<td>Ø45/15</td>
<td>Ø45/15</td>
</tr>
<tr>
<td>Max. Turning Diameter</td>
<td>Ø45/15</td>
<td>Ø45/15</td>
<td>Ø45/15</td>
<td>Ø45/15</td>
</tr>
<tr>
<td>Max. Turning Length</td>
<td>76/10</td>
<td>76/10</td>
<td>76/10</td>
<td>76/10</td>
</tr>
<tr>
<td>Max. Swaging Bar Length</td>
<td>110/10</td>
<td>110/10</td>
<td>110/10</td>
<td>110/10</td>
</tr>
<tr>
<td>Max. Bar Capacity</td>
<td>Ø11.5</td>
<td>Ø11.5</td>
<td>Ø11.5</td>
<td>Ø11.5</td>
</tr>
<tr>
<td><strong>TRAVEL</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Z-axis</td>
<td>4500</td>
<td>4500</td>
<td>4500</td>
<td>4500</td>
</tr>
<tr>
<td>X-axis</td>
<td>4500</td>
<td>4500</td>
<td>4500</td>
<td>4500</td>
</tr>
<tr>
<td>Y-axis</td>
<td>4500</td>
<td>4500</td>
<td>4500</td>
<td>4500</td>
</tr>
<tr>
<td><strong>SPINDLE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chuck SIZE (mm)</td>
<td>6&quot;</td>
<td>6&quot;</td>
<td>6&quot;</td>
<td>6&quot;</td>
</tr>
<tr>
<td>Spindle Taper</td>
<td>A-6</td>
<td>A-6</td>
<td>A-6</td>
<td>A-6</td>
</tr>
<tr>
<td>Spindle Bore diameter</td>
<td>Ø102/250</td>
<td>Ø102/250</td>
<td>Ø102/250</td>
<td>Ø102/250</td>
</tr>
<tr>
<td>Front Bearing (OD/ID)</td>
<td>Ø89/47</td>
<td>Ø89/47</td>
<td>Ø89/47</td>
<td>Ø89/47</td>
</tr>
<tr>
<td>Rear Bearing (OD/ID)</td>
<td>Ø102/130</td>
<td>Ø102/130</td>
<td>Ø102/130</td>
<td>Ø102/130</td>
</tr>
<tr>
<td>Spindle Motor Torque</td>
<td>418</td>
<td>418</td>
<td>418</td>
<td>418</td>
</tr>
<tr>
<td>Sub-spindle Chuck Size</td>
<td>6&quot;</td>
<td>6&quot;</td>
<td>6&quot;</td>
<td>6&quot;</td>
</tr>
<tr>
<td>Sub-spindle Bore Diameter</td>
<td>Ø35</td>
<td>Ø35</td>
<td>Ø35</td>
<td>Ø35</td>
</tr>
<tr>
<td><strong>BASE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spindle Base Diameter (mm)</td>
<td>651</td>
<td>651</td>
<td>651</td>
<td>651</td>
</tr>
<tr>
<td>Spindle Motor Mounting Screw</td>
<td>8/17.5</td>
<td>8/17.5</td>
<td>8/17.5</td>
<td>8/17.5</td>
</tr>
<tr>
<td>Sub-spindle Mounting Screw</td>
<td>8/17.5</td>
<td>8/17.5</td>
<td>8/17.5</td>
<td>8/17.5</td>
</tr>
<tr>
<td><strong>TURRET</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of Tool Stations</td>
<td>8-12</td>
<td>12-12</td>
<td>12-12</td>
<td>12-12</td>
</tr>
<tr>
<td>Turning Tool OD</td>
<td>22/20</td>
<td>22/20</td>
<td>22/20</td>
<td>22/20</td>
</tr>
<tr>
<td>Turning Tool ID</td>
<td>Ø50/20</td>
<td>Ø50/20</td>
<td>Ø50/20</td>
<td>Ø50/20</td>
</tr>
<tr>
<td>Power Tool Shank Diameter</td>
<td>VDI-30</td>
<td>VDI-30</td>
<td>VDI-30</td>
<td>VDI-30</td>
</tr>
<tr>
<td>Power Tool Motor Torque</td>
<td>17000</td>
<td>17000</td>
<td>17000</td>
<td>17000</td>
</tr>
<tr>
<td>Power Tool Motor Output</td>
<td>2,717</td>
<td>2,717</td>
<td>2,717</td>
<td>2,717</td>
</tr>
<tr>
<td><strong>TURRET WITH AXES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of Tool Stations</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Turning Tool OD</td>
<td>22</td>
<td>22</td>
<td>22</td>
<td>22</td>
</tr>
<tr>
<td>Turning Tool ID</td>
<td>Ø50</td>
<td>Ø50</td>
<td>Ø50</td>
<td>Ø50</td>
</tr>
<tr>
<td>Power Tool Shank Diameter</td>
<td>VDI-40</td>
<td>VDI-40</td>
<td>VDI-40</td>
<td>VDI-40</td>
</tr>
<tr>
<td>Power Tool Motor Torque</td>
<td>10000</td>
<td>10000</td>
<td>10000</td>
<td>10000</td>
</tr>
<tr>
<td><strong>TALLSTOCK</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tail Stock</td>
<td>25</td>
<td>25</td>
<td>51</td>
<td>51</td>
</tr>
<tr>
<td>Quill Diameter</td>
<td>Ø15</td>
<td>Ø15</td>
<td>Ø15</td>
<td>Ø15</td>
</tr>
<tr>
<td>Quill Taper</td>
<td>12/37</td>
<td>12/37</td>
<td>12/37</td>
<td>12/37</td>
</tr>
<tr>
<td>Coolant Throat of Quill</td>
<td>MT44</td>
<td>MT44</td>
<td>MT44</td>
<td>MT44</td>
</tr>
<tr>
<td>Z-axis Rapid Traverse</td>
<td>3000</td>
<td>3000</td>
<td>3000</td>
<td>3000</td>
</tr>
<tr>
<td>Z-axis Slow Traverse</td>
<td>3000</td>
<td>3000</td>
<td>3000</td>
<td>3000</td>
</tr>
<tr>
<td>Z-axis Rapid Traverse</td>
<td>16300</td>
<td>16300</td>
<td>16300</td>
<td>16300</td>
</tr>
<tr>
<td><strong>FEDRATE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feed</td>
<td>1-2500</td>
<td>1-2500</td>
<td>1-2500</td>
<td>1-2500</td>
</tr>
<tr>
<td>Depth</td>
<td>1-2500</td>
<td>1-2500</td>
<td>1-2500</td>
<td>1-2500</td>
</tr>
<tr>
<td>Length of Stroke (mm)</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>Weight</td>
<td>2250</td>
<td>2250</td>
<td>2250</td>
<td>2250</td>
</tr>
<tr>
<td><strong>WEIGHT</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td>2250</td>
<td>2250</td>
<td>2250</td>
<td>2250</td>
</tr>
</tbody>
</table>
## QUALITY ASSURANCE

- To ensure the machine high quality requirement, FEMCO develop an inspection standard process depends on features of every models.
- To achieve a comprehensive test of the machine, FEMCO 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 theballbar testing devices.

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