

CNC LATHES

HL Series



CNC Machine Tools

www.femcousa.com



HL-25, HL-25Durga, HL-25 C-Axis, HL-25DM, HL-25DMS, HL-35, HL-45 1000/1500, HL-55



FEMCO USA Headquarters

FEMCO has been manufacturing quality machine tools since 1958. Over 4 decades, our machines have brought increased productivity and efficiency to our customers. We pride ourselves in quality and our Research and Development division is constantly looking for ways to improve our products. In addition to the CNC lathes featured in this brochure, our product line consists of CNC vertical lathes, CNC wheel turning centers, and CNC horizontal boring mills. We also offer Vertical Machining Centers through our sister company KAFO (Kao Fong Machinery Co., Ltd.).



Headquarters at the How-Hu Factory plant in Chiayi, Taiwan.

All of our machines are manufactured at production facilities in Chiayi, Taiwan. Our machine works division has received the ISO-9002 quality recognition, and European “CE” marks of approval as a testament to the quality of our products.

Our company takes pride in a tradition of perfectionism which demands that every component of every machine that bears our name is monumentally engineered to the highest standards in our industry. Knowing you will be investing in a quality machine tool with reliable high performance is sure to make our affordable pricing all the more appealing.

- Meehanite base, saddle and headstock casting.
- Modular design with many options for cost effective combination of bar feeder, parts catcher, tool presetter, bar puller, etc.
- Automatic lubrication system
- High pressure coolant supply system
- Powerful FANUC high torque spindle motor



HL-25



HL-25DM



HL-25DMS

CNC Machine Tool Manufacturer

- FANUC Controller
- Rigid bed construction
- Pretensioned ball screw that minimizes Thermal displacement
- Overload protection on X, Z-axis traverse
- Hydraulic chuck accompanied with both Hard Jaws and Soft Jaws standard



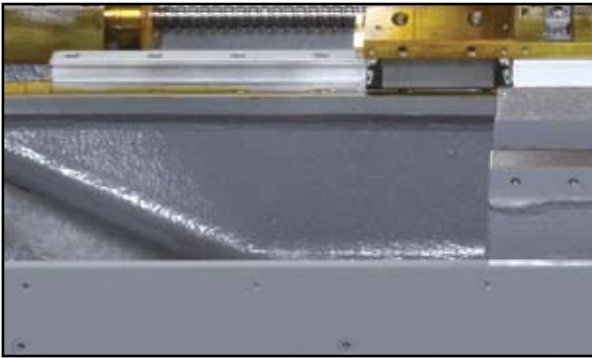
HL-35



HL-45 1500



HL-55 110S



Robust Meehanite Casting

All major components are machined from stress relieved Meehanite castings. Precision ground ball screws are used to ensure fast and smooth traverse of the carriage and the saddle.



High Volume Coolant Supply

Coolant is supplied through the turret and ejected through the tool holder to allow the coolant to reach the cutting point more effectively.



CNC Controller

The HL series comes standard equipped with a choice of a state-of-the-art controller like this FANUC CNC controller.



Automatic Lubricator

The automatic lubricator delivers 3~6cc of lubricant in 15 minute intervals to both slideways and ballscrews.



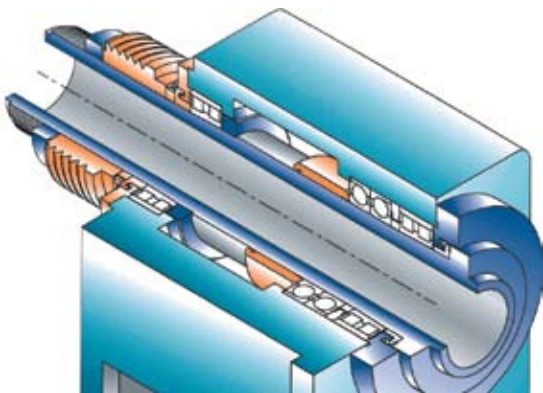
Pretensioned Ballscrew

The precision ball screw is pretensioned to minimize thermal displacement.



Hydraulic Power System

The hydraulic power system provides stable and powerful hydraulic pressure for the machine.



Precision Spindle

The heavy duty precision spindle has cylindrical roller bearings combined with angular thrust ball bearings designed to sustain radial as well as thrust loads.



Hydraulic Chuck

All FEMCO CNC lathes (with the exception of the HL-65 C) are furnished standard with a hydraulic chuck and a set of soft and hard jaws.



Sub-spindle

The power turret with the rear turning and milling function, and sub-spindle combine to satisfy a one set up for machining.



Chip Conveyor

The chain-type chip conveyor automatically removes chips from the machining environment allowing for non-stop operation.

Parts Conveyor

Not available on all models

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



Tool Presetter

Not available on all models

The tool presetter reduces setup time with 4 point contact of each tool with the measuring sensor.



HL-25 Standard

- FANUC 0i-T control
- 8" 3 jaw hydraulic chuck
- 1 set soft & hard jaws
- Hydraulic actuator
- Hydraulic system
- Manual tailstock w/ programmable quill
- Live center
- Work light
- Automatic lubrication system
- High volume coolant pump
- Full chip & coolant enclosures
- Tool box with necessary operation tools
- Leveling bolts & pads
- Operation and maintenance manuals
- Parts list & electronic drawings
- One year machine warranty
- Two year control warranty

HL-25 Optional

- FANUC 18-T control
- Tool presetter
- Chip conveyor
- Programmable parts catcher
- Programmable tailstock (quill)
- ATS 5C collet nose
- ATS 16C collet nose
- ATS 3J collet nose
- ATS S20 collet nose
- ATS S26 collet nose
- Bar puller
- Bar feed interface (Auto loader)
- Bar feed interface (standard)
- Boring bar holder - additional
- Boring bar sleeve - additional
- X axis glass scale
- Auto door
- Transformer
- 23 station Durga turret
- C-axis /Live Tools
- Sub Spindle

HL-35 Standard

- FANUC 0i-T control
- 10" 3 jaw hydraulic chuck
- 1 set soft & hard jaws
- Hydraulic actuator
- Hydraulic system
- Programmable tailstock and quill
- Work light
- Automatic lubrication system
- High volume coolant pump
- Full chip & coolant enclosures
- Tool box with necessary operation tools
- Leveling bolts & pads
- Operation and maintenance manuals
- Parts list & electronic drawings
- One year machine warranty
- Two year control warranty

HL-35 Optional

- FANUC 18-T control
- 12" Hollow chuck with drawbar (w/ exchange)
- Tool presetter
- Chip conveyor
- Programmable parts catcher
- ATS 16C collet nose
- ATS 3J collet nose
- ATS S20 collet nose
- ATS S26 collet nose
- ATS S30 collet nose
- Bar puller
- Bar feed interface (Auto loader)
- Bar feed interface (standard)
- 23 Station Live Tool Turret
- C-axis turret
- Transformer
- Sub spindle
- Y Axis
- C Axis/Live Tools
- Sub Spindle

HL-45 Standard

- FANUC 0i-T control
- 12" 3 jaw hydraulic chuck with hard jaws
- Hydraulic actuator
- Hydraulic system
- Programmable tailstock and quill
- Work light
- Automatic lubrication system
- Coolant circulation system
- Full chip & coolant enclosures
- Tool box with necessary operation tools
- Leveling bolts & pads
- Operation and maintenance manuals
- Parts list & electronic drawings
- One year machine warranty
- Two year control warranty

HL-45 Optional

- FANUC 18-T control
- Tool presetter
- Chip conveyor
- Bar puller
- Bar feed interface (Auto loader)
- Bar feed interface (standard)
- PLC change
- Transformer
- C Axis/Live Tools

HL-55 Standard

- FANUC 0i-T control
- 15" 3 jaw hydraulic chuck with hard jaws
- Hydraulic actuator
- Hydraulic system
- Programmable tailstock and quill
- Work light
- Automatic lubrication system
- Coolant circulation system
- Full chip & coolant enclosures
- Tool box with necessary operation tools
- Leveling bolts & pads
- Operation and maintenance manuals
- Parts list & electronic drawings
- One year machine warranty
- Two year control warranty

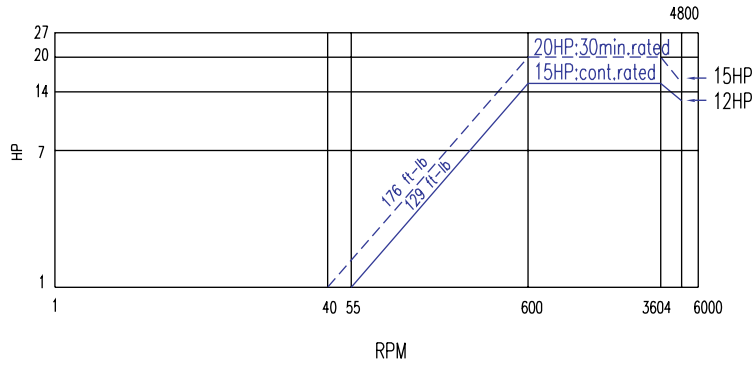
HL-55 Optional

- Chip conveyor
- Bar puller
- Bar feed interface (Auto loader)
- Bar feed interface (standard)
- Transformer

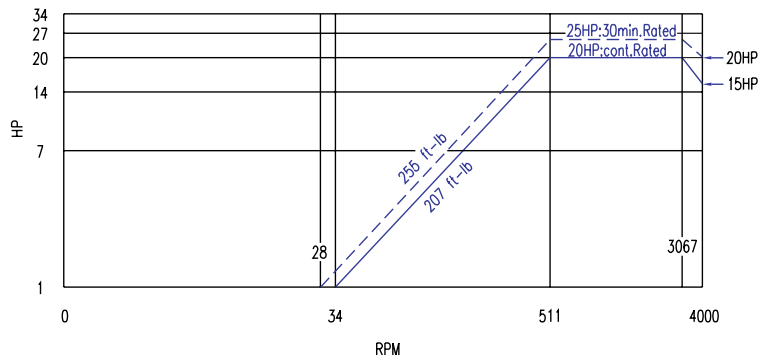
* Features and options subject to change without notice

Torque Charts

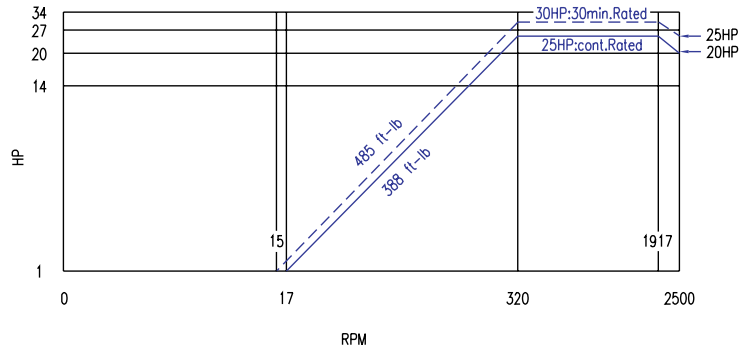
HL-25 4800RPM FANUC ALPHA P22



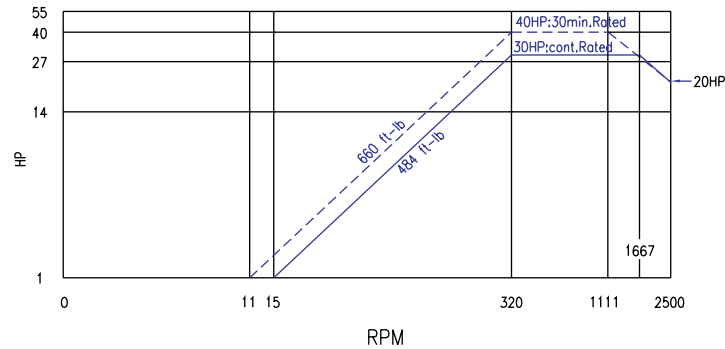
HL-35 4000RPM FANUC ALPHA P30



HL-45 2500RPM FANUC ALPHA P40



HL-55/SLN 2500RPM FANUC ALPHA P50



HL-25



The HL-25 is a combination of power, speed, and accuracy. It provides superior and dependable performance with fine features throughout.

Special Features

23.62" Max. turning length

17.72" Max swing over bed

9.84" Max turning diameter

4800 rpm Spindle speed

2.04" Bar capacity

8" Chuck diameter

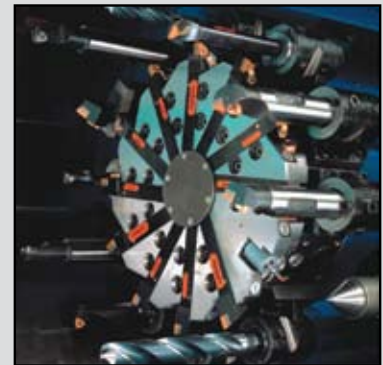
Sup Spindle (OPT)

The HL-25 comes standard with a 12-station turret but gives you the option of a 23-station turret. The 23-station turret also comes with an option for 11 live tool stations. The 23-station double disk turret accommodates more tools than any other machine of its type in the industry. Set ups are faster and easier and tool changes are minimized. Instead of having to stagger the O.D. and I.D. tools, you can group your tool set ups by work piece and spend far less time indexing. With the programming of the double disk design can index O.D. tools and separate disks, further maximizing your time in the cut. With the optional C-axis, 23-station live tool turret you can integrate milling and turning into one operation. Cut costs, save time and maximize productivity with this machine.

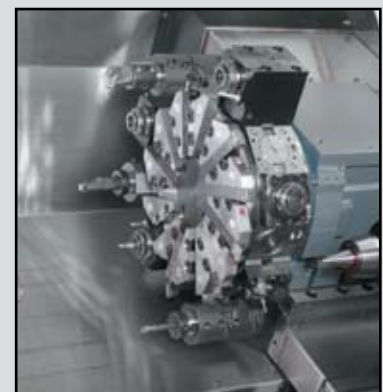
HL-25 Turret Options



12-Station



23-Station "Durga"



23-Station "Durga"
Live Tool Turret

HL-35



The HL-35 emulates the HL-25 and provides all the same benefits. You can expect the HL-35 to be fast, efficient, and reliable.

Special Features

26.57" Max. turning length

19.69" Max swing over bed

14.17" Max turning diameter

4000 rpm Spindle speed

2.95" Bar capacity

10" Chuck diameter

Y-Axis (OPT)

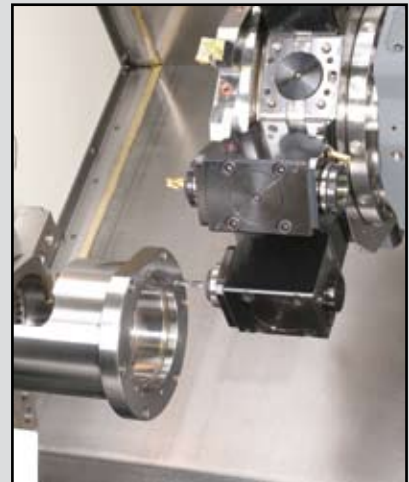
Sub-spindle (OPT)

The HL-35 comes with two turret choices. The standard 12-station servo turret or the 23-station Durga turret with 11 live tool stations. The servo driven indexing is fast and quiet. This machine provides an exceptional 10.24" of travel on the X-axis. It also features overload protection on the X and Z traverse, a powerful 20/25 horsepower spindle motor and a fully programmable tailstock. In addition the HL-35 can be equipped with an optional Y-axis and sub-spindle to increase productivity.

HL-35 Turret Options



12-Station



23 Station "Durga"
Live Tool Turret

HL-45 1000/1500

HL-45 1000/1500



The HL-45 models are in a class of their own, providing large spindles with high rpm's, massive turrets, and programmable tailstocks.

Special Features

- 37.01"/56.69" Max. turning length
- 25" Max swing over bed
- 15.75"/23.62" Max turning diameter
- 2500 rpm Spindle speed
- 3.54" Bar capacity
- 12" Chuck diameter

The HL-45 features a 2500 rpm spindle with a 25/30 HP motor. A unique extra wide 12-station bi-directional turret also comes standard. With class 7 bearings throughout the machine and large linear ways, the HL-45 has superior stability and rigidity. In addition, the machine comes with a space saving Big Bore 12" chuck to increase capacity without affecting the original footprint. The HL-45 has tremendous stock removal and excellent finishing capabilities. It is an extraordinary value, a true low cost, high output machine.

HL-45 Turret Options



12-Station



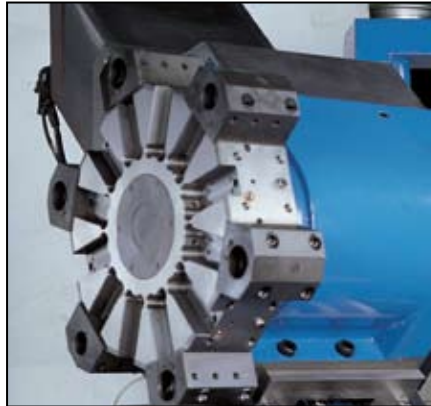
12-Station VDI

HL-55 110S



The HL-55 110S is designed to be the strongest in its league. This durable series is built for heavy duty removal and large bar work. It maintains the highest accuracies and finishes.

HL-55 Turret



12-Station

Special Features

- 42.12" Max. turning length
- 28.62" Max swing over bed
- 24.21" Max turning diameter
- 2500 rpm Spindle speed
- 4.53" Bar capacity
- 15" Chuck diameter

This is a powerful, large capacity lathe that can profitably produce small to large lot parts. The huge turret casting, incorporating an oversized curvic coupling, can cut from 1/16" to 24.21" diameters and up to 42" lengths in a wide variety of materials. Featuring FANUC high speed controls and drives, the superior cutting, accuracies, and finishes are maintained for years with little or no service. The HL-55 110S comes with class 7 bearings throughout and hardened ground boxed spaceways for maximum rigidity.

HL Series

Specifications

HL-25

HL-35

Capacity

Maximum Turning Length	23.62"(600mm)	26.57"(675mm)
Maximum Swing Over Bed	17.72"(450mm)	19.69"(500mm)
Maximum Turning Diameter	9.84"(250mm)	14.17"(360mm)
C-Axis Maximum Turning Diameter	11.81"(300mm)	15.75"(400mm)
Distance Between Centers	25.59"(650mm)	30"(762mm)

Spindle

Spindle Speed	4800 rpm	4000 rpm
Spindle Nose	A2-6	A2-8
Bar Capacity	2.04"(52mm)	2.95"(75mm)
C-Axis Bar Capacity	2.05"(52mm)	2.95"(75mm)
Chuck Diameter	8"(203.2mm)	10"(254mm)
Spindle Motor Direct Drive	15/20HP(AC 11.2/14.9kW)	20/25HP(AC 14.9/18.6kW)
Spindle Diameter	3.9"(99.1mm)	5.12"(130mm)
Spindle Bore	2.4"(61mm)	3.43"(87mm)
C-Axis Maximum Live Tool Speed	3000 rpm	3000 rpm
C-Axis Live Tool Motor	3.0/5.0HP(AC 2.2/3.7kW)	5/7.0HP(AC 3.7/5.5kW)
C-Axis Spindle Bore	2.2"(55.9mm)	3.43"(110mm)

Turret

Number of Stations	12	12
Durga	23(12 O.D. / 11 I.D.)	23(12 O.D. / 11 I.D.)
C-Axis Motorized Live Tools	11	11
Turning Tool O.D./I.D.	.75" / 1.25"	1" / 2"
C-Axis Turning Tool O.D./I.D.	.75" / 1.5"	1" / 1.5"

X-Axis

Travel	5"(127mm)	10.24"(260mm)
Rapid Traverse Rate	1180"/min (29.92m/min)	787.4"/min(20m/min)
AC Servo Motor	2.1HP(AC 1.57kW)	2.8HP(AC 2.1kW)
Ballscrew	1.26"(32mm) x P0.39"(10mm)	1.57"(40mm) x P0.39"(10mm)

Z-Axis

Travel	24.8"(630mm)	27.17"(690mm)
Rapid Traverse Rate	1417"/min(35.99m/min)	944.88"/min(24m/min)
AC Servo Motor	2.1HP(AC 1.57kW)	5.1HP(AC 3.8kW)
Ballscrew	1.26"(32mm) x P0.47"(12mm)	1.97"(50mm) x P0.47"(12mm)

Tailstock

Tailstock Travel	15.75"(400mm)	20.08"(510mm)
Quill Diameter	2.76"(70mm)	4.72"(120mm)
Quill Travel	3.94"(100mm)	4.72"(120mm)
Quill Taper	MT#4	MT#5

Guide way

Linear

Linear

Machine Weigh

7161 lbs (3248 kg)

13228 lbs (6000 kg)

Machine Dimensions

LxW	85.5" x 54.33" (2171mm x 1380mm)	132.68" x 79.53" (3370mm x 2020mm)
Machine Height	67.56"(1716mm)	77.36"(1965mm)

Power Requirements

220Volts, 3 Phase 60Hz, 20 KVA

220Volts, 3 Phase 60Hz, 30 KVA

CNC Machine Tool Manufacturer

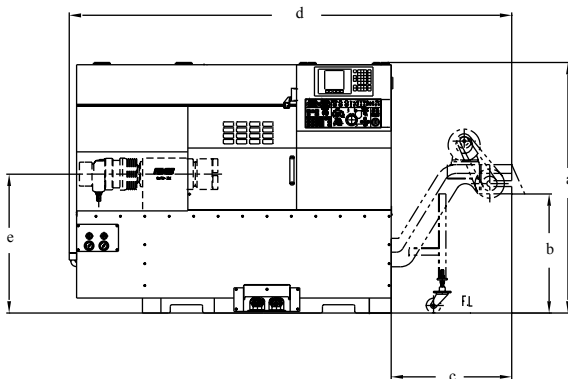
HL-45 1000/1500

HL-55 110S

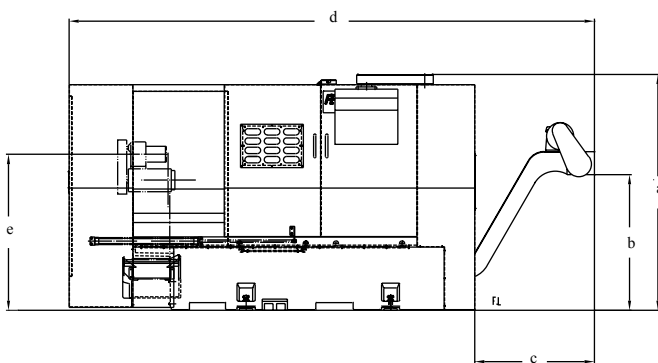
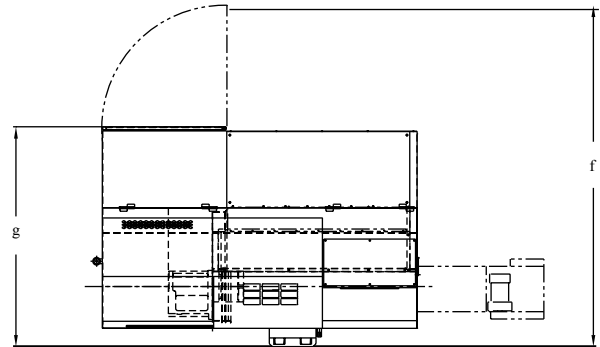
37.01"(940mm) / 56.69"(1440mm)	42.12"
25"(635mm)	28.62"(727mm)
15.75"(400mm) / 23.62"(600mm)	24.21"(615mm)
-----	-----
37.4"(950mm) / 57"(1448mm)	47.24"(1200mm)
2500 rpm	2500 rpm
A2-8	A2-11
3.54"(90mm)	4.53"(115mm)
3.54"(90mm)	-----
12"(304.8mm)	15"(381mm)
25/30HP(AC 18.6/22.4kW)	30/35HP(AC 22/26kW)
6.3"(160mm)	6.69"(170mm)
4.33"(110mm)	5.12"(130mm)
Radial 1500 rpm / Axes 3000 rpm	-----
5/7.5HP (AC 3.7/5.5kW)	-----
4.33"(110mm)	-----
12	12
-----	-----
12	-----
1" / 2"	1" / 2"
1" / 1.5"	-----
11.22"(285mm) / 13.19"(335mm)	13.39"(340mm)
787.4"/min(20m/min)	472.44"/min(12m/min)
4HP(AC 3kW)	5.1HP(AC 3.8kW)
1.57"(40mm) x P0.39"(10mm)	1.42"(36mm) x P0.31"(8mm)
39.37"(1000mm) / 59.06"(1500mm)	43.31"(1100mm)
944.88"/min(24m/min)	629.92"/min(16m/min)
5.4HP(AC 4kW)	6HP(AC 4.5kW)
1.97"(50mm) x P0.47"(12mm)	1.97"(50mm) x P0.47"(12mm)
32.68"(830mm) / 52.36(1330mm)	37.6"(955mm)
4.72"(120mm)	4.72"(120mm)
4.72"(120mm)	4.72"(120mm)
MT#5	MT#5
Linear	Box
14551 lbs (6600 kg) / 16535 lbs (7500 kg)	16535 lbs (7500 kg)
152.95" x 83.9", 198.2" x 85.4" (3385mm x 2131mm, 5034mm x 2170mm)	181.89" x 75.59" (4620mm x 1920mm)
82.68"(2100mm)	83.86"(2130mm)
220 Volts, 3 Phase 60 Hz, 40 KVA	220 Volts, 3 Phase 60 Hz, 55KVA

* Specifications subject to change without notice

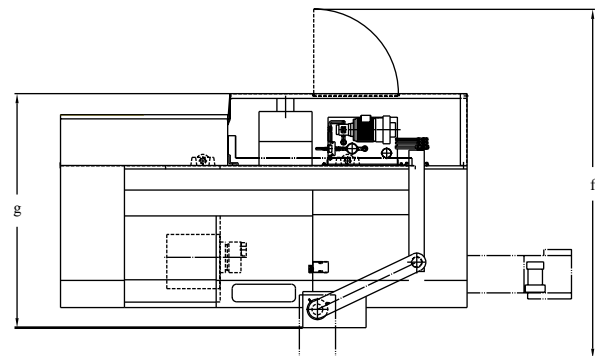
	HL-25	35	45 10/15	55 110S
a	67.56"	77.36"	82.68"	83.86"
b	32.09"	36"	****	40.94"
c	36.5"	37"	****	26"
d	122"	170"	152.95/ 198.2"	207.5"
e	37.4"	42"	49.64"	47.5"
f	91.85"	114.02"	119.8"	123.5"
g	54.33"	79.53"	83.9" / 85.4"	75.59"



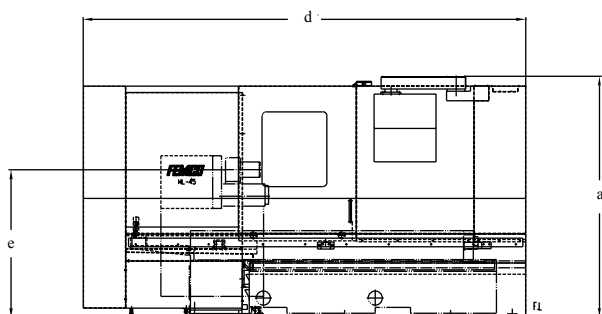
HL-25



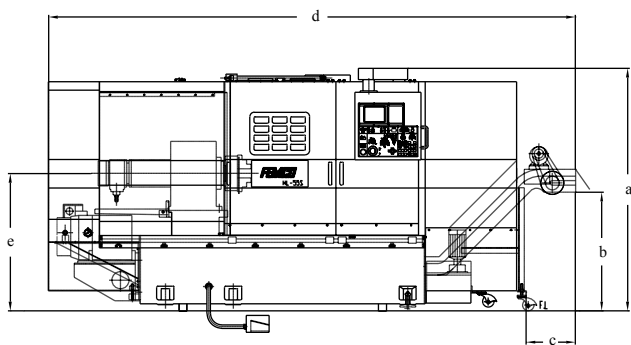
HL-35



Machine Layouts



HL-45



HL-55



CNC Lathes HL Series



7142 Belgrave Avenue, Garden Grove, CA 92841
(714) 898-2066 • www.femcousa.com