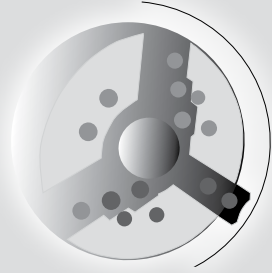




HL-Series

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



WELCOME TO FEMCO USA

FEMCO Inc. is a manufacturer of finely crafted CNC machines manufactured in Taiwan. The line of CNC machines includes lathes, vertical lathes, and horizontal boring mills, vertical machining centers, and wheel turning centers. Affordable pricing and dependable performance are traditions at our company. FEMCO has been manufacturing metalworking tools since 1958. Our years of experience and expertise offer the finest machine tools in the industry. Our mission is to provide top quality machine tools to companies through our network of highly qualified machine tool distributors. We make it our business to increase yours. If your shop is looking for quality metalworking tools, browse through our line of CNC machines to find the perfect solution.

Contact our sales department for more information and distributor locations near you.

6	General Features	14	HL-45 1000/1500
7	Optional Accessories	15	HL-45 1000/1500
8	Features & Options	16	HL-55 1250 2000 2500
9	Features & Options	17	HL-55 1250 2000 2500
10	HL-25	18	Machine Specifications
11	HL-25	19	Machine Specifications
12	HL-35		
13	HL-35		

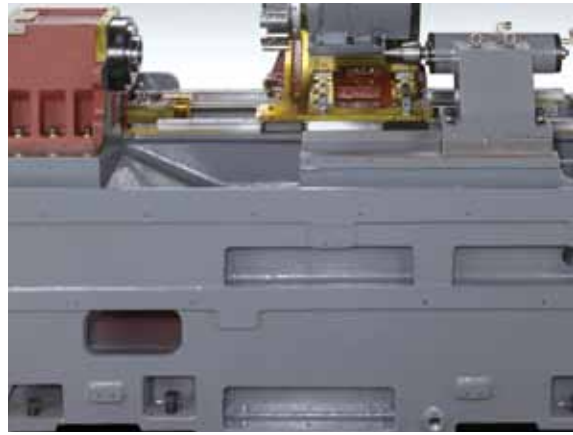
HL-Series CNC Lathes

Our complete line of lathes deliver a fine balance of computerized precision and mechanical power. The HL series is sure to be a valuable addition in your job shop.

- 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
- 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

The logo for FEMTO, featuring the word "FEMTO" in a stylized, blue, italicized font with horizontal lines through the letters.

ROBUST MEECHANITE CASTING | HL-SERIES



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 | HL-SERIES



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 | HL-SERIES



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

AUTOMATIC LUBRICATOR | HL-SERIES



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

PRETENSIONED BALLSCREW | HL-SERIES



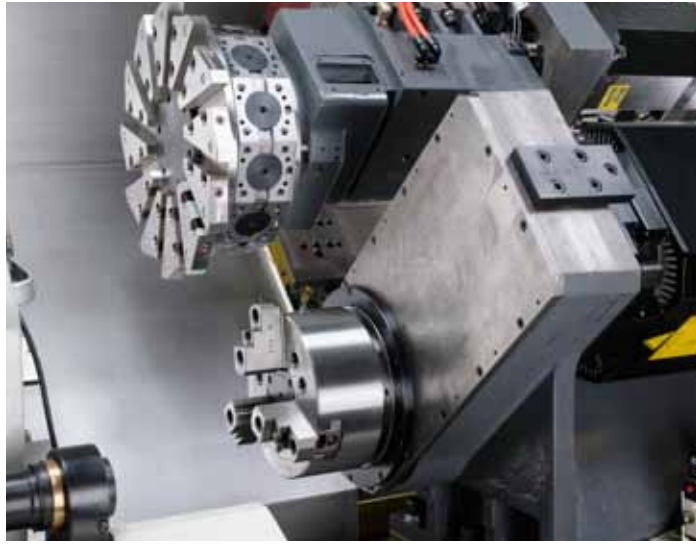
The precision ball screw is pretensioned to minimize thermal displacement.

HYDRAULIC POWER SYSTEM | HL-SERIES



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

SUB-SPINDLE | HL-SERIES



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

PARTS CONVEYOR | HL-SERIES



Not available on all models

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

CHIP CONVEYOR | HL-SERIES



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

TOOL PRESETTER | HL-SERIES



Not available on all models

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

HL-SERIES | HL-25 SPECIAL FEATURES



DESCRIPTION	MEASUREMENTS
Maximum turning length	23.62"
Maximum swing over bed	17.72"
Maximum turning diameter	9.84"
Spindle speed	4800 rpm
Bar capacity	2.04"
Chuck diameter	8"
Sup spindle	(OPT)

HL-SERIES | HL-25 OPTIONS



STANDARD HL-25

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.

SETUP

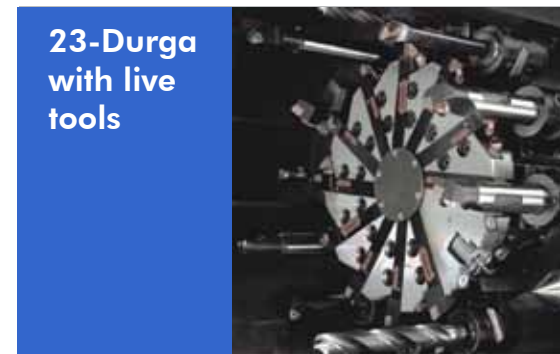
Set ups are faster and easier and tool changes are minimized. Instead of having to stagger the O.D. and I.D. tools, you can group your tool set ups by work piece and spend far less time indexing. With the programming of the double disk design can index O.D. tools and separate disks, further maximizing your time in the cut.

C-AXIS AND 23-STATION LIVE TOOL

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.

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

HL-SERIES | HL-25 12-STATION, 23-DURGA, 23-DMS TURRETS



HL-SERIES | HL-25DM ADDITIONS



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 and further CUT your cutting time.

HL-25 OPTIONAL

- FANUC 18-T control
- Tool presetter
- Chip conveyor
- Programmable parts catcher
- Programmable tailstock (quill)
- Bar puller
- Bar feed interface (Auto loader)
- Bar 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

All major components are made from high tensile strength MECHANTE casting which has been heat-treated, vibration and antideform tested. Unique and compact design of machine bed occupies less floor space.

HL-SERIES | HL-35 SPECIAL FEATURES



DESCRIPTION	MEASUREMENTS
Maximum turning length	26.57"
Maximum swing over bed	9.69"
Maximum turning diameter	14.17"
Spindle speed	4800 rpm
Bar capacity	2.95"
Chuck diameter	10"
Y-Axis	(OPT)
Sub spindle	(OPT)

HL-SERIES | HL-35 OPTIONS



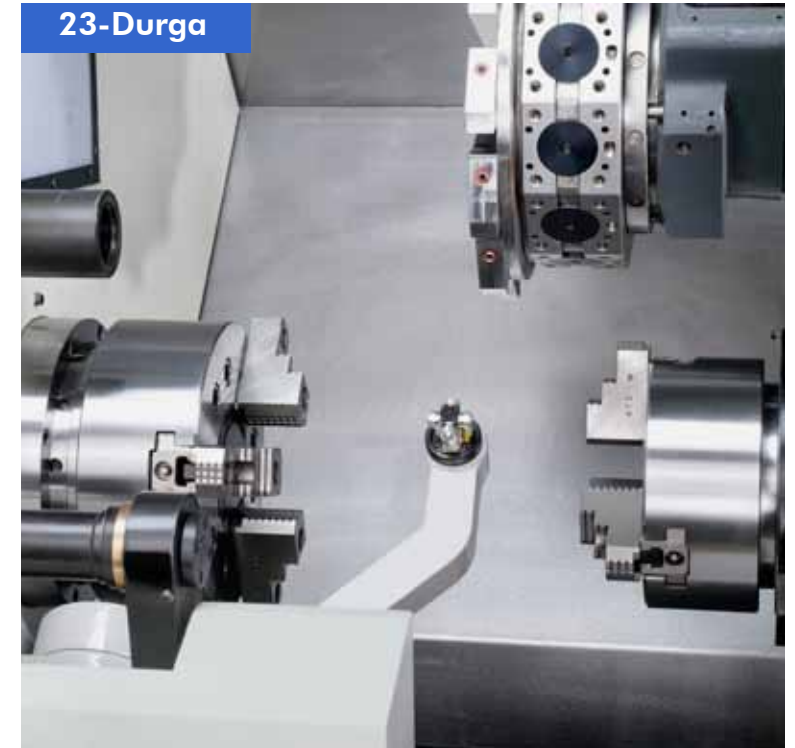
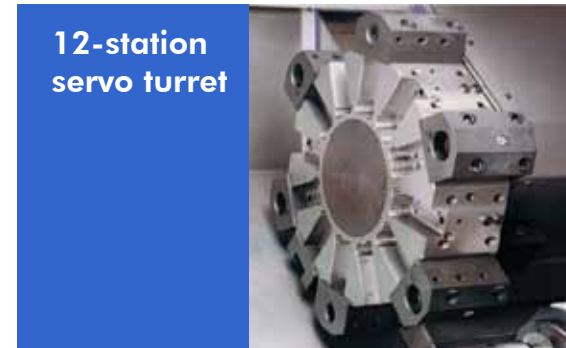
The HL-35 emulates the HL-25 and provides all the same benefits. You can expect the HL-35 to be fast, efficient, and reliable.

STANDARD HL-35

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-SERIES | HL-35 TURRETS



HL-SERIES | HL-35DMSY ADDITIONS



THE ULTIMATE TURNING AND MILLING CAPABILITY

HL35 OPTIONAL

- FANUC 15-T Control
- 12" Hollow chuck with drawbar (with exchange)
- Tool Presetter
- Chip conveyor
- Programmable parts catcher
- 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

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

HL-35

HL-35

HL-SERIES | HL-45 SPECIAL FEATURES



DESCRIPTION	MEASUREMENTS
Maximum turning length	37.01"/56.69"
Maximum swing over bed	25"
Maximum turning diameter	15.75"/23.62"
Spindle speed	2500 rpm
Bar capacity	3.54"
Chuck diameter	12"

HL-SERIES | HL-45 OPTIONS



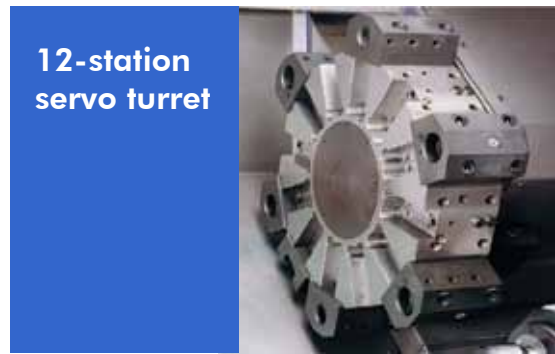
The HL-45 models are in a class of their own, providing large spindles with high rpm's, massive turrets, and programmable tailstocks.

STANDARD HL-45

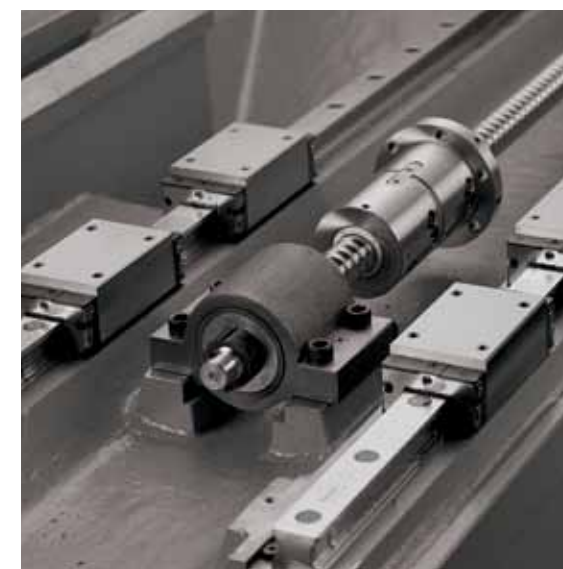
The HL-45 features a 2500 rpm spindle with a 25/30 HP motor. A unique extra wide 12-station bi-directional turret also comes standard. With class 7 bearings throughout the machine and large linear ways, the HL-45 has superior stability and rigidity. In addition, the

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-SERIES | HL-45 TURRETS



HL-SERIES | HL-45 ADDITIONS



SUPERIOR AND DEPENDABLE PERFORMANCE

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

HL-45 OPTIONAL

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

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

HL-45

HL-45

HL-SERIES | HL-55S 1250 / 2000 / 2500 SPECIAL FEATURES



DESCRIPTION	MEASUREMENTS
Maximum turning length	42.12"
Maximum swing over bed	28.62"
Maximum turning diameter	24.21"
Spindle speed	2500 rpm
Bar capacity	4.53"
Chuck diameter	15"

HL-SERIES | HL-55S OPTIONS



The HL-55S 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.

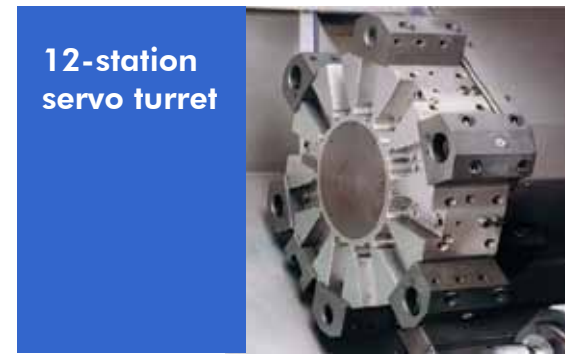
STANDARD HL-55S
This is a powerful, large capacity lathe that can profitably produce small to large lot parts. The huge turret casting, incorporating an oversized curvic coupling, can cut from 1/16" to 24.21" diameters and up to 42" lengths in a wide variety of materials. Featuring

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 | HL-55S TURRETS



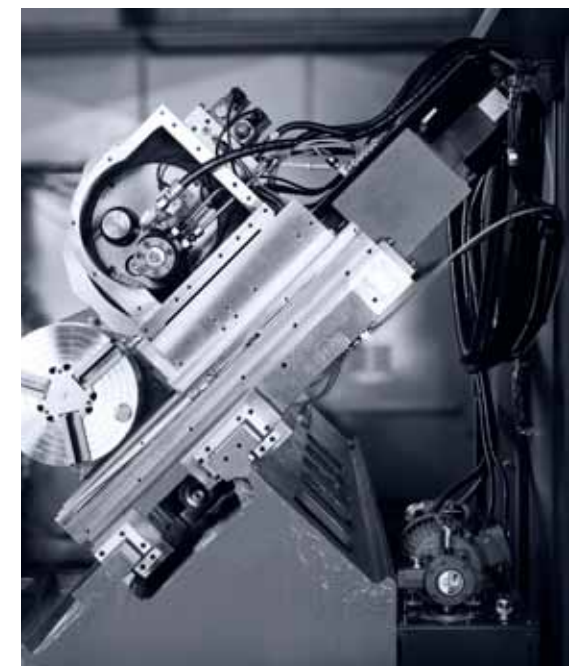
Hydraulic Chuck



12-station servo turret



HL-SERIES | HL-55S ADDITIONS



A STRUCTURE WITH GREATER RIGIDITY AND SLANT BED DESIGN

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

- HL-55S OPTIONAL**
- Chip conveyor
 - Bar puller
 - Bar feed interface (Auto loader)
 - Bar feed interface (Standard)
 - Transformer

Rigid and precise slant bed design.
The ultimate line-up: HL-55S, 1250, 2000, 2500

HL-45

HL-45

SPECIFICATIONS



HL-25



HL-35



HL-45 1000 | 1500



HL-55S | 1250



HL-2000 | 2500

CAPACITY

Maximum Turning Length	23.62"(600mm)	26.57"(675mm)	37.01"(940mm) 56.69"(1440mm)	42.12"	75.5"(1918mm) 91.33"(2320mm)
Maximum Swing Over Bed	20.27"(515mm)	19.69"(500mm)	25"(635mm)	28.62"(727mm)	28.0"(711mm)
Maximum Turning Diameter	9.84"(250mm)	14.17"(360mm)	15.75"(400mm) 23.62"(600mm)	24.21"(615mm)	24.21"(615mm)
C-Axis Maximum Turning Diameter	11.81"(300mm)	15.75"(400mm)			
Distance Between Centers	25.59"(650mm)	30"(762mm)	37.4"(950mm) 57"(1448mm)	47.24"(1200mm)	75.0"(1905mm) 98.42"(2500mm)

SPINDLE

Spindle Speed	4800 rpm	4000 rpm	2500 rpm	2500 rpm	2500rpm
Spindle Nose	A2-6	A2-8	A2-8	A2-11	A2-11
Bar Capacity	2.04"(52mm)	2.95"(75mm)	3.54"(90mm)	4.53"(115mm)	4.53"(115mm)
C-Axis Bar Capacity	2.05"(52mm)	2.95"(75mm)	3.54"(90mm)		
Chuck Diameter	8"(203.2mm)	10"(254mm)	12"(304.8mm)	15"(381mm)	15"(381mm)
Spindle Motor Direct Drive	15/20HP(AC 11.2/14.9kW)	20/25HP(AC 14.9/18.6kW)	25/30HP(AC 18.6/22.4kW)	30/35HP(AC 22/26kW)	30/35HP(AC 22/26kW)
Spindle Diameter	3.9"(99.1mm)	5.12"(130mm)	6.3"(160mm)	6.69"(170mm)	6.69"(170mm)
Spindle Bore	2.4"(61mm)	3.43"(87mm)	4.33"(110mm)	5.12"(130mm)	5.12"(130mm)
C-Axis Maximum Live Tool Speed	3000 rpm	3000 rpm	Radial 1500 rpm Axes 3000 rpm		
C-Axis Live Tool Motor	3.0/5.0HP(AC 2.2/3.7kW)	5/7.0HP(AC 3.7/5.5kW)	5/7.5HP (AC 3.7/5.5kW)		
C-Axis Spindle Bore	2.2"(55.9mm)	3.43"(110mm)	4.33"(110mm)		

TURRET

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

X-AXIS

Travel	5.9"(150mm)	10.24"(260mm)	11.22"(285mm) 13.19"(335mm)	13.39"(340mm)	13.39"(340mm)
Rapid Traverse Rate	1180"/min (30m/min)	787.4"/min(20m/min)	787.4"/min(20m/min)	630"/min(12m/min)	630"/min(12m/min)
AC Servo Motor	2.1HP(AC 1.57kW)	2.8HP(AC 2.1kW)	4HP(AC 3kW)	5.1HP(AC 3.8kW)	5.1HP(AC 3.8kW) 5.1HP(AC 3.8kW)
Ballscrew	1.26"(32mm) x P0.39"(10mm)	1.57"(40mm) x P0.39"(10mm)	1.57"(40mm) x P0.39"(10mm)	1.42"(36mm) x P0.31"(8mm)	1.42"(36mm) x P0.31"(8mm)

Z-AXIS

Travel	24.8"(630mm)	27.17"(690mm)	39.37"(1000mm) 59.06"(1500mm)	43.31"(1100mm)	78.74"(2000mm) 98.42"(2500mm)
Rapid Traverse Rate	1417"/min(36m/min)	944.88"/min(24m/min)	944.88"/min(24m/min)	787"/min(16m/min)	787"/min(16m/min)
AC Servo Motor	2.1HP(AC 1.57kW)	5.1HP(AC 3.8kW)	5.4HP(AC 4kW)	6HP(AC 4.5kW)	9.3HP(AC 4.5kW)
Ballscrew	1.26"(32mm) x P0.47"(12mm)	1.97"(50mm) x P0.47"(12mm)	1.97"(50mm) x P0.47"(12mm)	1.97"(50mm)x P0.47"(12mm)	1.97"(50mm) x P0.47"(12mm)

TAILSTOCK

Tailstock Travel	14.56"(370mm)	20.08"(510mm)	32.68"(830mm) 52.36(1330mm)	43.1"(1094mm)	72.6"(1844mm) 92.3"(2344mm)
Quill Diameter	2.76"(70mm)	4.72"(120mm)	4.72"(120mm)	4.72"(120mm)	4.72"(120mm)
Quill Travel	3.94"(100mm)	4.72"(120mm)	4.72"(120mm)	4.72"(120mm)	4.72"(120mm)
Quill Taper	MT#4	MT#5	MT#5	MT#5	MT#5

GUIDE WAY

	Linear	Linear	Linear	Box	Box
--	--------	--------	--------	-----	-----

MACHINE WEIGHT	7161 lbs (3248 kg)	13228 lbs (6000 kg)	14551 lbs (6600 kg) 16535 lbs (7500 kg)	16535 lbs (7500 kg)	24,521lbs.(11.123kg) 28,660lbs(13,000kg)
----------------	--------------------	---------------------	---	---------------------	--

MACHINE DIMENSIONS

LxW	124.0" x 59.0" (3150mm x 1500mm)	169.0" x 79.53" (4270mm x 2020mm)	152.95" x 83.9", 198.2" x 85.4" (3385mm x 2131mm) (5034mm x 2170mm)	210" x 78.74" (5334mm x 2000mm)	235.24"x78.74" 260"x78.74" (5975mm x 2000mm) (6604mm x 2000mm)
Machine Height	67.56"(1716mm)	77.36"(1965mm)	83.88"(2130mm)	83.86"(2130mm)	83.86"(2130mm)

POWER REQUIREMENTS	220Volts, 3 Phase 60Hz, 20 KVA	220Volts, 3 Phase 60Hz, 30 KVA	220 Volts, 3 Phase 60Hz, 40 KVA	220 Volts, 3 Phase 60Hz, 55KVA	220 Volts, 3 Phase 60Hz, 55KVA
--------------------	--------------------------------	--------------------------------	---------------------------------	--------------------------------	--------------------------------

SPECIFICATIONS

SPECIFICATIONS

Address: 7142 Belgrave Avenue.
Garden Grove, CA 92841
Phone: 714-898-2066
Fax: 714891-2813
Website: www.femcousa.com

