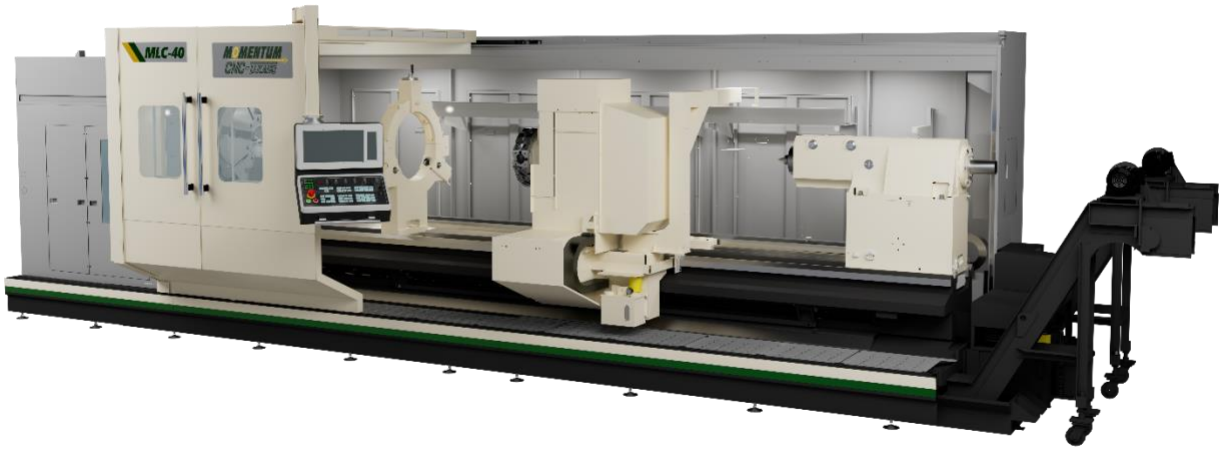
MOMENTUM MACHINE TOOL COMPANY
Phone: (844) 200-8993
10010 Houston Oaks Drive, Houston, TX 77064

MFA CONFIGURATION



(Master quote revised date: 01/06/20)

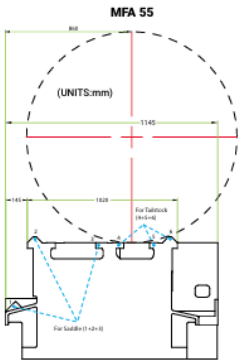
MFA CONFIGURATION

The MFA four-way bed lathe comes equipped with exceptional standard features, many of which are typically offered as options or are unavailable from other brands.

1) GENEROUS CAPACITIES

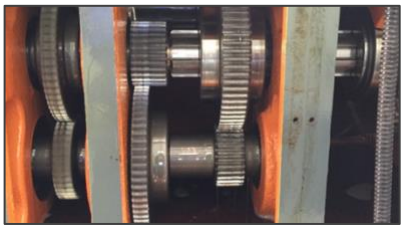
The MFA boasts best-in-class capacities, featuring up to 2550 mm (100.0”) swing over bed, 2220 mm (87.4”) swing over the cross slide, 14.15 meters (557”) distance between centers, and up to 30 tons (66,000 lb.) between centers, depending on configuration.

2) MEEHANITE BED



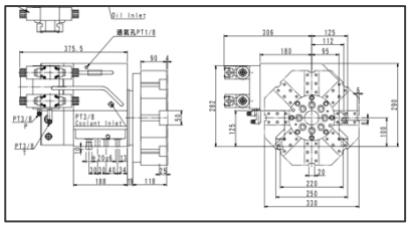
The heavy-duty four-way single-piece bed and all carriages are constructed from Meehanite cast iron, precision machined, and ground. Both the X and Z axis ways are box type, and the Z ways utilize a 2 V +1 slant guide way design for enhanced carriage support. MFA models further offer two additional box ways for open-type steady rests.

3) ROBUST HEADSTOCK



The headstock gearbox incorporates three bearing support points for increased stability. The spindle shaft and gears are made from molybdenum chrome alloy steel, heat treated, and ground for durability and performance. Each spindle undergoes a two-step balancing process—first before headstock assembly and again prior to shipment.

4) HEAVY-DUTY TURRET



The standard 2-axis CLT-125-12T turret features a "double-cam-plate" indexing mechanism for smooth and rapid tool disc rotation. This compact and durable system is ideal for heavy-duty precision cutting. The hydraulic drive system ensures precise indexing, clamping, and unclamping, while proximity detectors eliminate the risk of tool disc change errors.

5) ROTATING-QUILL TAILSTOCK

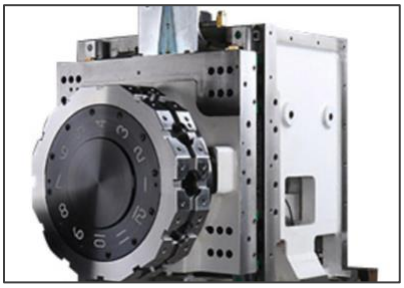
The standard tailstock includes a 250mm rotating quill, with larger options of 350mm & 450mm available. The quill design mirrors that of a CNC lathe's spindle, ensuring high rigidity and accuracy. All tailstock sizes come with an inner taper of MT6 and an A2-8 or A2-11 spindle nose, while the tailstock body is seated on two box ways.

HEAVY-DUTY MACHINE: M & MY MODELS

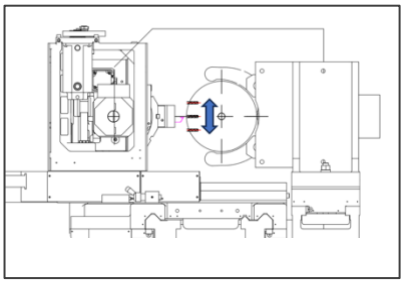
The live tool -M & MY models (MFA-M and MFA-MY) can be configured with the following turrets and additional standard features:

1) BMT-75 TURRET with Y axis and without Y axis

The servo turret provides excellent tool change performance, while the spindle motor delivers power for milling operations. A flexible coupling ensures zero-loss power transmission, achieving a maximum milling speeds.



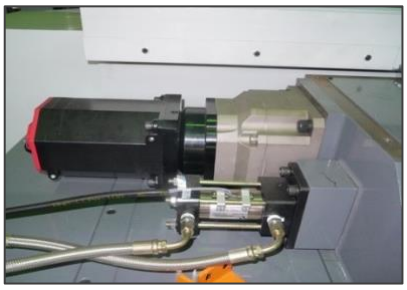
2) BMT-85 with Y axis and without Y axis



The Y-axis capability enables simultaneous processing of multiple operations on complex workpieces, significantly enhancing productivity. Y-axis stroke is +/- 80mm, providing ample travel for keyway and similar work.

3) CF-AXIS POSITIONING

The dedicated Cf-axis servo motor and dual-input gearbox ensure smooth and accurate spindle rotation during milling, offering superior performance compared to traditional spindle motor-driven systems.



4) SPINDLE BRAKE

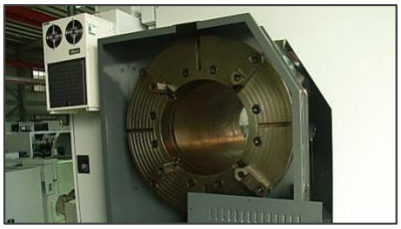
A hydraulic brake pair provides versatile clamping options, allowing precise control during milling cuts and Cf-axis milling. Dual clamping pressures are available: light braking for dampening during rotating milling cuts and high pressure for spindle hold during milling or drilling.

CONFIGURATION & FLEXIBILITY

Many options are available to customize your MLD series machine to meet your specific needs.

1) SPINDLE BORE OPTIONS

Spindle bores are available in 6", 9", 12" and 14", accommodating larger workpieces. The rear spindle can also be prepared with a chuck adaptor and coolant collection box for dual chuck applications, such as pipe threading. 16" available on MFA50-70 & 21" bore available on MFA 55-100.



2) H4-350 SQUARE TURRET

Compact and heavy-duty, the small footprint of the H4-350 turret increases maximum turning diameter, while a built-in 2-piece hirth coupling provides +/- 1 arc second of repeatability and high rigidity.

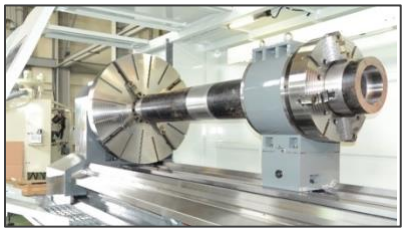
3) GRINDING HEAD

Two-axis grinding can be achieved with optional grinding motors allowing customers to select the optimal level of grinding control for their needs.

4) BORING BAR HOLDER FOR MAIN CARRIAGE

Heavy duty removable boring bar holder for 250mm, 350mm and 400mm diameter boring bars mounted to carriage.

5) THRU-SPINDLE "THIMBLE" STEADY REST



Heavy and specialized applications can be accommodated by a tail spindle instead of a conventional tailstock, with various through-hole sizes and chuck mounting configurations available.

6) STEADY REST

Steady rest are available in full surround, follower and hydraulic.
Full surround with range of 30mm to 950mm.
“C” type open front with range of 75mm to 600mm.
Hydraulic steadies with range of 45mm to 630mm.