



Perfection Industrial Sales
2550 Arthur Avenue
Elk Grove Village, IL 60007 USA
+1 (847) 545-6374
www.perfectionindustrial.com
sales@perfectionindustrial.com

MEUSER 86" Swing x 82' Centers CNC Lathe, Mdl. M-VIII-S

Lot #54 – March 7, 2023 Dril-Quip, Inc. Webcast Auction

Rebuild and Retrofit Abstract

- Headstock test run and confirmed good condition and main spindle is fitted with 80HP Fanuc spindle motor. A direct spindle encoder is prepared to be mounted to the rear of the spindle for feedback.
- Headstock has four gear ranges with automatic shifting system via the CNC.
- Headstock lubrication has been installed.

- Bedways re-ground and saddle (Z1, Z2) mating surfaces inserted, scraped, and fit - including gibs.
- All fixators have been installed under the machine and it has been laser aligned.
- The Z drive system is configured with precision rack and pinion mounted the full length of the bed. The new Z1, Z2 drive systems were manufactured with dual rack and pinion drive using the master slave principle to eliminate any backlash in the rack via the servo motors.
- Two Fanuc servo motors are installed on dual right angle Parker precision planetary gear drives (not yet installed)

- Cross slide (X1, X2) reground, inserted, scraped, and fit – including gibs.
- New Ball screw and thrust bearing systems installed for cross slide (X1, X2) axes. Motors mount in the Z axis lower assembly and are to be connected by cogged belt.
- Fanuc servo motors for X1 and X2 are present (not yet installed).

- All saddle lube lines have been run and terminated to X/Z1 and X/Z2. The new lubrication pumps are present, not installed.
- Tailstock has been reworked and both quill and traverse motion and clamp systems have been integrated into the control systems. It has an on-board hydraulic system and tank. A cable reel is present to carry power and communication cables to the unit as it travels along the bed.

Three Tool mounting blocks have been designed, documented and fabricated.

- One to mount an 8 position Barrufaldi BF TB320 vertical turret.
- One to mount a 4 position Barrufaldi horizontal turret.
- One to mount boring bars which will reach well past centerline. A DQ design 7" x 36" boring bar with an indexing tool plate with four positions is built and present with the machine.

The current design of the electrical system is to have the 8 position turret set up on head 1 (nearest the chuck) and the four position turret or boring bars on head 2. The turret control wiring system is designed such that a control cabinet for the turret functions is built and to be mounted in a cabinet that travels with each saddle. In this way only the 200 and 24v have to make the long run from the main cabinet to each head. The back planes for each have been built and the enclosures are present and painted.

CNC AND ELECTRICAL:

- The pendant controls have been designed and the enclosures fabricated. The main CNC control (Fanuc 32i) X 2 are present for each head. The machine is designed to run as a true four path system where the heads can operate the machine together or independently with some obvious safety features and overrides written into the logic.
- The Fanuc operator panel is present with the Fanuc package.
- The main operator / manual interface is designed and wired. Many of the components, cabling and hardware are already with the machine, but this will need to be assembled at final destination to finalize the CNC system.
- The machine architecture and CNC control system was designed to accept rear mounted hydraulic steady rests and this has basically been incorporated modularly into the electrical system and PMC logic. This could be used or ignored by the CNC but explains some of the spare components and modules that have not yet been installed in the cabinet as well as the additional space in the same.
- Much if not all of the pendant arms and mounting hardware is present needs to be installed.
- Electrical cabinet has been designed, assembled, and set in place.
- The complete electrical wiring diagram, pmc ladder logic, cable pin diagrams, etc. have been designed and documented.
- Wire track and cabling has been designed. Cable track purchased and installation started per photos. Cables run from main cabinet at center rear of machine to the front junction box and disburse from there.

Major components required to complete machine – AS INTENDED BY DRIL-QUIP:

- 8 Position Barrufaldi model BF TB 320, estimated cost. \$32,000
- Fanuc Motor Cables:
- It was intended that Dril-Quip would purchase the cabling from Igus and make the pin connections themselves. Cost for all cabling was quoted at \$15,000- materials only. Igus offers the built cables with pin connections installed for a fee. The third option being to purchase from Fanuc.
- Chip and coolant control system and piping + any required sheet metal that the final end user may require.