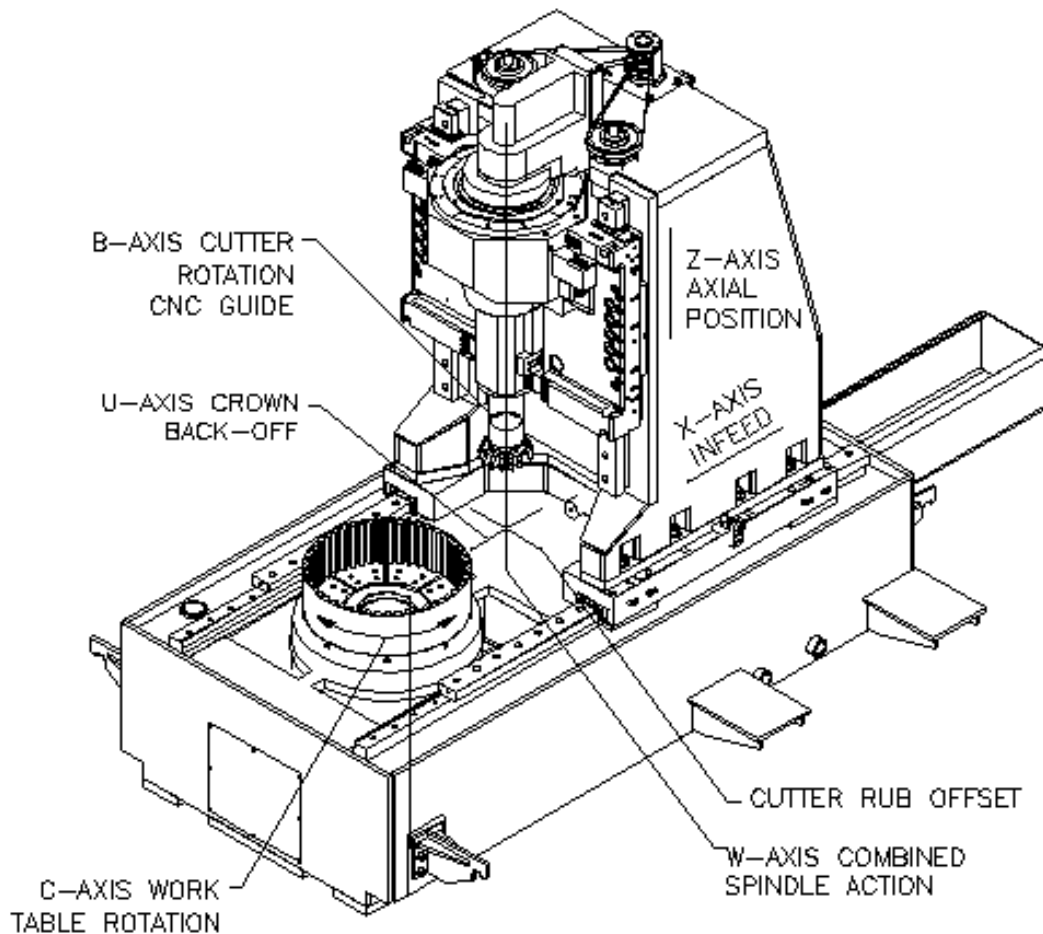




HS 650 *Gear Shaper*

HS 650 *Gear Shaper*



Kinematics:

- B: Cutter Rotation
- C: Table Rotation
- X: Infeed Movement
- W: Stoking Movement
- U: Spindle Crown/backoff Movement

Features

- Hydrostroke spindle
- Servo drive on X & Z axis (identical motors)
- Z: Vertical Saddle Movement
- Integral motors on B & C axis (identical motors)
- Linear motors on W & U axis (identical motors)
- GE Fanuc 300i 6-axis with PC front-end CNC
- GE Fanuc motors / digital amplifiers
- Direct scale feedback on B,C, W & U axis
- New Fellows Human Machine Interface
- W-axis combining stroking, stroke position & stroke length
- U-axis capable of backoff, crown & tapers (no cams)
- Chip drainage to integral coolant tank
- Complete machine enclosure with safety locks
- Quick connect/ maintenance friendly HPU system
- Single pick-up

Optional Features

Hardware

- Auto loader
- Integrated part marking
- Deburring systems
- Quick change tooling
- Manual tool change assist
- Automatic tool changer
- Auto door open/close
- Light curtain
- Auto part clamping
- Cutter Measurement Unit
- Uninterrupted Power System
- Chip conveyor - Rear
- Chip conveyor - Front

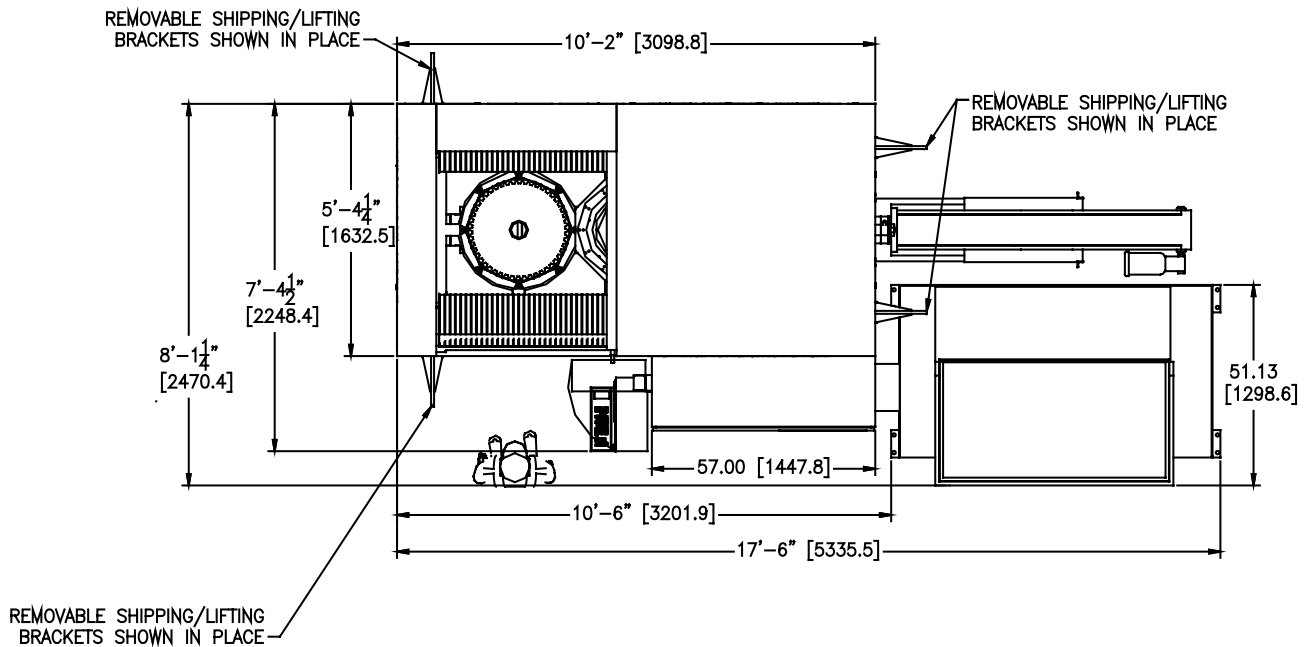
Software

- CNC guide
- Near Net cycles
- Sector cycles
- Slotting cycles
- Bi-directional cycles
- Tool advance cycles

Advancing the Technology of Metal Removal

Technical data

HS650-200			
Capacities		Metric (mm)	Inch (in.)
Nominal Pitch Diameter	External	650	25.6
	Internal	635	25
Rated Pitch	Spur	12.7 MOD	2 D.P.
	Helical	12.7 MOD	2 D.P.
Maximum Gear Face Width		200	8.0
Maximum Helix Angle		40 Degrees	
Minimum Center Distance		-10	-0.39
Maximum Center Distance		700	27.6
Maximum Part Swing		1,000	39.4
Vertical Slide Travel (Z-Axis)		300	11.8
Minimum Distance Between Spindle Face to Table Face		203.2	8.0
Maximum Distance Between Spindle Face to Table Face		758	29.8
Maximum Strokes per Minute		500 spm	
Dimensions	Length	5334	210
	Width	2470	98
	Height	3125	123
Weight approximate	(kg / lb)	17,195	38,000



OTHER O.E.M. PRODUCTS

Gear Manufacturing

Horizontal Hobbers

25H CNC	1" x 4" Capacity
100H CNC	5" x 20"-32" Capacity
200H CNC	8" x 52"-72" Capacity
400H CNC	18" x 52"-72" Capacity
600H CNC	25" x 100"-148" Capacity

Fellows Gear Shapers

Mechanical Stroking:

10-04	10" x 4" Capacity
20-04	20" x 4" Capacity

Rack Shaper: 10-04RS

Steering Sector Shaper:

4-3SS 4" x 3" Capacity

Hydro-Stoking:

FS180	7" x 2" Capacity
FS 400	15.75" x 3.54"-6.88" Capacity
FS630	25.60" x 5"-8" Capacity
FS1270	51.18" x 8"-12" Capacity
FS2550	101.0" x 8"-12" Capacity

Vertical Gear Grinders

500 VG CNC	19.685" x 12" Capacity
900 VG CNC	31.5" x 12" Capacity
1000 VG CNC	39.37" x 12" Capacity
1400 VG CNC	55.118" x 11.8" Capacity

Hob & Shaper Cutter Inspection Systems

HSC 100-001	9" x 16" Capacity
CMU130	5.11" Capacity

Gear Inspection Systems

Other Metal Cutting

Extrusion Milling Machines

EMC-12 Extrusion Milling Machine
Up to 12 CNC axis including contouring capabilities.

Rotary Transfer & Rotary Trunion Machining Centers

Designed around the customers specialized needs based on a modular design for easy change overs.

Special Purpose Machining Centers

Special application machines for special applications which are not addressed by standard machine builders.

Roto-Grind Precision Rotary Tables

Both toolroom and laboratory applications

Specialty Machines

We specialize in designing engineering & manufacturing solutions for our customers requirements. We would be happy to review your requirements.

REMANUFACTURED/ RETROFITTED PRODUCTS

Gear Products

We have extensive experience in gear products and metal cutting machines. In many cases we have developed standard packages to shorten the lead time and minimize your investment.

Barber-Colman

Hobbers 6-10,6-16, 16-16, 16-36, 16-56, 14-15, 14-30, 25-15, 16-15, 10-10

Shapers HD150, HD200, HD250, 10-04, 18-04

Hob Sharpeners 6-5, 6-7, 10-12

Pfauter

Hobbers PA300, PA402, P900, P1501

Liebherr

Hobbers L301, L 402, L652, L1202

Fellows

Shapers 4AGS, 36-6, 10-4, 20-4, 50-8, 50-12, FS180, FS400, FS630, FS1270, FS2550

M&M/ITW

Gear Inspection Machines

Other gear machines such as Red Ring Shavers, Gleason Gear Grinders, etc.

Other Metal Cutting Products

Lathes

Cincinnati Milacron
American

Machining Centers

Sundstrand OM-1, OM-2, OM-2A, OM-3, OM-4, S40, S60, S80
Kearney & Trecker
Bourn & Koch

Boring Machines

DeVlieg
Giddings & Lewis
Gray

Grinders

Mattison
Bryant
Springfield
Norton

VTL's

Giddings & Lewis

Gantry Machines

Ingersoll
Ekstrom Carlson

Rotary Tables

Pratt & Whitney
M&M
Roto-Technology

SERVICES

Replacement Parts

Barber-Colman Gear Machines
Fellows

Jones & Lamson
Ferguson Machining Units
Roto-Technology Rotary Tables & Inspection Systems

Bourn & Koch

Mattison

Parts reversed engineered from your old worn out parts on other brands.

Service

Barber-Colman

Fellows

Jones & Lamson

Ingersoll

Bourn & Koch

Sundstrand

Mattison

Roto-Technology Rotary Tables & Inspection Systems

Many brands of Gear Equipment

Laser Alignment/Ball Bar Analysis

Portable equipment capable of processing 5 tests at once in your plant.

Vibration Analysis

Review customer's challenges to improve productivity and quality

Subcontract Machining

Planing, machining, turning and hobbing

*For more information about
Bourn & Koch's capabilities,
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