

# TALENT GT42

HIGH PERFORMANCE TURNING  
CENTER WITH LINEAR TOOL CARRIER



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## TALENT GT42 FEATURES

- FANUC 0iTF Control System
- Hydraulic Cylinder Unit
- Heat Exchanger
- A2-5 Spindle Configuration
- Part Catcher to Tray
- Bar Feed Interface
- Head Wall Air Blast
- Head Wall Coolant
- Work Area LED Lamps
- 3-Color Warning Lamp
- Manual Central Grease Lubrication

\*Work holding and spindle tooling must be ordered separately

## AVAILABLE MODELS

### TALENT GT42

- 2 Axis 42mm (1.625") Thru-Bore Capacity Gang Tool Lathe

### TALENT GT42 Y

- 2 Axis 42mm (1.625") Thru-Bore Capacity Gang Tool Lathe
- Equipped with Y-Axis

The Hardinge TALENT GT machines not only set the standard in "high-performance" gang tool turning, but offer an exceptional combination of features for accuracy, flexibility, and durability in a compact design. TALENT GT machines have been designed to help maximize the ever demanding process requirements of today.

Enhance integrated automation capability and automated robotic component parts handling capabilities make the TALENT GT machines an outstanding choice. Depending on how you decide to configure your machine, it can be used as a stand-alone unit, a higher capacity system with a bar feed, or a fully automated system using gantry or robotic inits.



# GENERAL PRECISION

DURCHMESSER GEWINDE

STEM \_\_\_\_\_ RH 3/8-24; LH 10-32

NUT \_\_\_\_\_ RH 3/8-24

BASE \_\_\_\_\_ LH 10-32

# KEY FEATURES

## VERTICAL GANG SLIDE CONFIGURATION

Drastically reduces the chip-to-cut time with no time lost for turret indexing. Vertical Gang Tool Type Tool Holders can be mounted and arranged to suit each different application requirement.

## HEADSTOCK

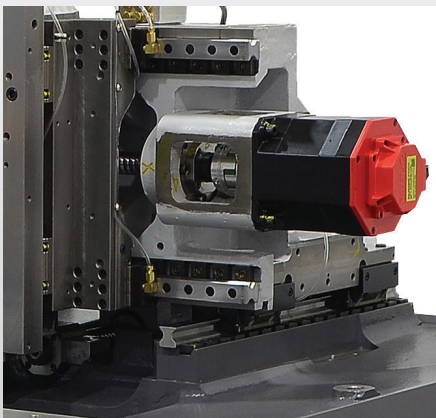
Headstock assembly with heavily ribbed construction allows for minimum heat retention and optimum component part size control.

## GUIDEWAY SYSTEM

Linear roller guides are utilized on all axes to provide optimum stiffness and rigidity. The roller guideway has noticeably larger contact area. This results in a substantially higher load carrying capacity and lower wear, together with minimum friction.

## SOLID ONE PIECE CAST IRON BASE

Rigid and stable base, strategically ribbed ensuring exceptional process accuracy with compact efficiency



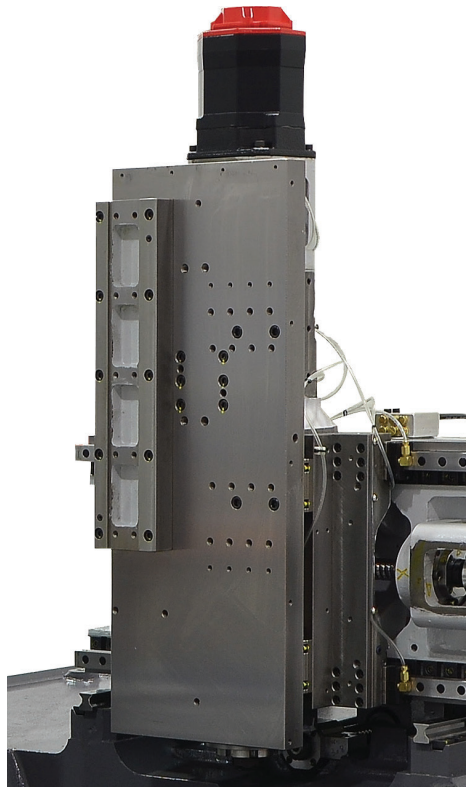
## DESIGNED FOR FLEXIBILITY AND PERFORMANCE

The latest software design platform and FEA (Finite Element Analysis) techniques were used to design and build the One Piece cast iron base structure. A rigid, structurally-balanced machine to assure optimum performance and machine life. The FEA software accurately depicts the structural deflection, stress levels, thermal response and vibration response of the assembled components and the assemble machine.

# MACHINE CONSTRUCTION

## Y-AXIS

The Y Axis is integrated into the base structure providing a rigid platform allowing for complex processes to be completed without compromise via “stacked” tooling to offer increased tooling capacity.



## REAR CHIP CONVEYOR SYSTEM

- Facilitates efficient removal of chips from the machine with ease.
- Machine includes coolant control as well as coolant flush to clean off sheet metal and flush chips into the conveyor
- Coolant Tank capacity is 140 liters (36 US gal)



## MACHINE OPTIONS

- SIEMENS 828D Control System\*
- Auto Power Off (M30)
- Pneumatic Cylinder Unit
- Part Conveyor
- Hinge Type Chip Conveyor
- Drag Type Chip Conveyor
- Oil Mist Collector
- Manual Tool Touch Probe
- Voltage Transformer
- Auto Door
- 20 Bar High Pressure Coolant Pump\*
- X, Y, & Z Axis Linear Scale Packages
- Bar Feed Unit\*

\*May not be available in all areas

## SPINDLE FLEXIBILITY



Hardinge  
B42 Collet



BUCK Chuck

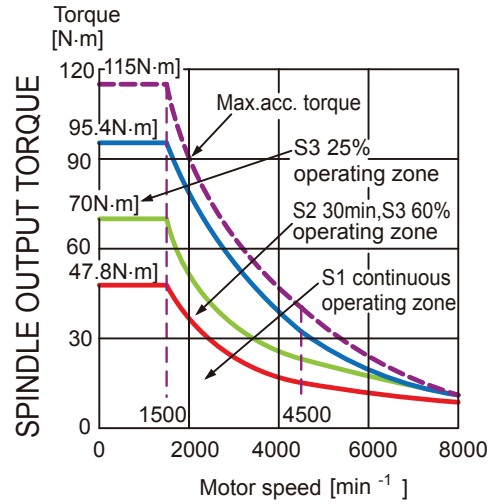
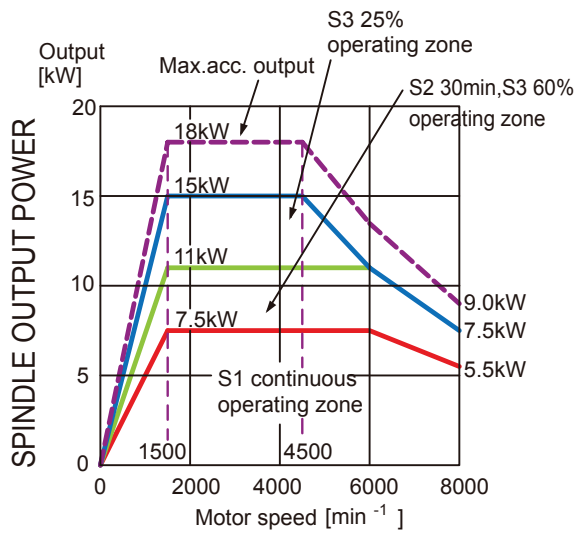


Hardinge FlexC



Collect Adapter  
A2-4/A2

# POWER & TORQUE CHARTS



# CONTROL

## PROGRAMMING FUNCTIONS

- Absolute/Incremental Programming
- Additional Custom Macro Variables
- Alarm Display
- Auto Acceleration/Deceleration
- Auto Coordinate System Setting
- Background Editing
- Canned Cycles (Drilling)
- Chamfer/Corner Rounding
- Circular Interpolation by R Programming
- Constant Surface Speed Programming
- Continuous Thread Cutting
- Coordinate System Setting (G50)
- Custom Macro B
- Decimal Point Programming
- Diameter/Radius Programming
- Direct Drawing Dimension Programming
- Display Position, Program, and Alarm History
- Extended Part Program Edit (copy/replace)
- External Workpiece Number Search
- Hardinge Safe Start Format
- Helical Interpolation (for Y-Axis)
- Helical Interpolation (for Non Y-Axis)\*
- Help Screen
- Input of Offset Values by (G10)
- Interpolation (Linear/Circular)
- MPG Manual Pulse Generator
- Manual Guide i with Full Color Display
- Multiple Repetitive Cycles I (Turning)
- Multiple Repetitive Cycles II (Pocketing)
- Program Number Search
- Programmable Parameter Input
- Reference Point Return
- Registered Part Program Storage (125)
- Rigid Tapping
- Spindle Orient
- Sequence Number Search
- Single Block Operation
- Skip Function G31
- Stored Stroke Check 1, 2, & 3
- Sub Program Call (10 fold nested)
- Thread Cutting Retract
- Thread Cutting
- Tool Life Management
- Tool Nose Radius Compensation (Geometry/Wear)
- Variable Lead Thread Cutting
- Workplace Coordinate System (G52-G59)

\*Option

# FANUC

## GENERAL

- 0iTF Control System
- Pendant-mounted Full Control
- 10.4" LCD Display
- Graphic Display
- Embedded Ethernet
- RS-232C Communication Ports
- Program Resolution .0001" (.001mm)
- Tool Offset Capability .0001" (.001mm)
- Tool Offsets with Geometry/Wear (99)
- Absolute Encoders
- Inch/Metric Selection by G-Code
- Part Program Storage 512KB

## MISCELLANEOUS

- Actual Cutting Speed and T-Code Display
- USB Port
- Dual Check Safety
- English
- French/German/Italian/Spanish Language
- Chinese in FANUC menus only
- Flash Card Capability PCMICA (up to 1GB)
- Full Keyboard
- Ladder Diagram Display

\*North American Standard. Siemens available

Conversational programming features offered on the CNC control is the CNC control builder's standard product, which may not fully support all machine functions. It is recommended the end user reference the control system documentation, or contact the control manufacturer, for further details of use or customization.

# SPECIFICATIONS

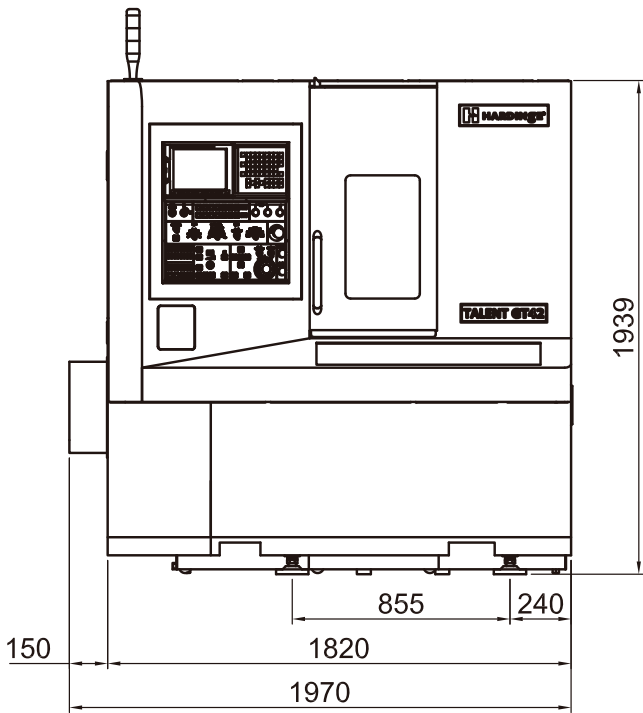
Capacity	
Swing Over Way Covers (Diameter)	310mm (12.2")
Through Hole Diameter	42mm (1.65")
Part Weight	34Kgs (75 lbs)
Max Turning Length	210mm (8.26")
Part Accuracy	
Roundness	0.00004" (1.0 micron)
Surface Finish Ra	12 micro-inch (0.3 micron)
Continuous Machining Accuracy	0.00025" (6 micron)
Spindle Configuration	
Spindle Nose	A2-5
Spindle rpm Max/Base	7000/1500 rpm
Front Bearing Bore	100mm (3,94")
FANUC Motor	FANUC ail 8 / 8000
Power @ Spindle (Continuous)	7.5 Kw (10 HP)
Power @ Spindle (30Min)	11 Kw 14.7 HP)
Power @ Spindle (15Min)	15Kw (20.1 HP)
Torque @ Spindle (Continuous)	47.8 Nm (35.26Ft-Lbs)
Torque @ Spindle (30Min)	70 Nm (51.63Ft-Lbs)
Torque @ Spindle (15Min)	95.4 Nm (70.37Ft-Lbs)
Z Axis	
Travel Z	235 mm (9.05")
Rapid Traverse Z	32m/min (1260ipm)

X Axis	
Travel X	345 mm (13.58")
Rapid Traverse X	32m/min (1260 ipm)
Y Axis (Option)	
Travel Y	-25mm +110mm (.985" + 4.33")
Rapid Traverse Y	945 ipm (24m/min)
X , Z & Y Axis	
Position Accy/Total Travel (ISO 230-2)	0.01mm (0.0004")
Repeatability (ISO 230-2)	0.005mm (0.0002")
C Axis	
Resolution	0.001 degree
Repeatability (ISO 230-2)	15 seconds
Accuracy (ISO 230-2)	20 seconds
Coolant Facilities	
Reservoir Capacity	140L (36 Gallon)
Pump Size	1.5 kW (2 HP)
Pump Rating	130/20L (5,72 Gallon)
Pressure	2.0 Bar (30psi)
Machine Dimensions	
Spindle CL Height	1000mm (42,13")
Length	1970mm (101,06")
Width w/o Chip Conveyor	1660mm (71,42")
Width w/ Chip Conveyor	1936mm (75,98")
Height	1936mm (75,98")
Weight (Less Skid)-Approx	3650 Kg (8046 lbs)

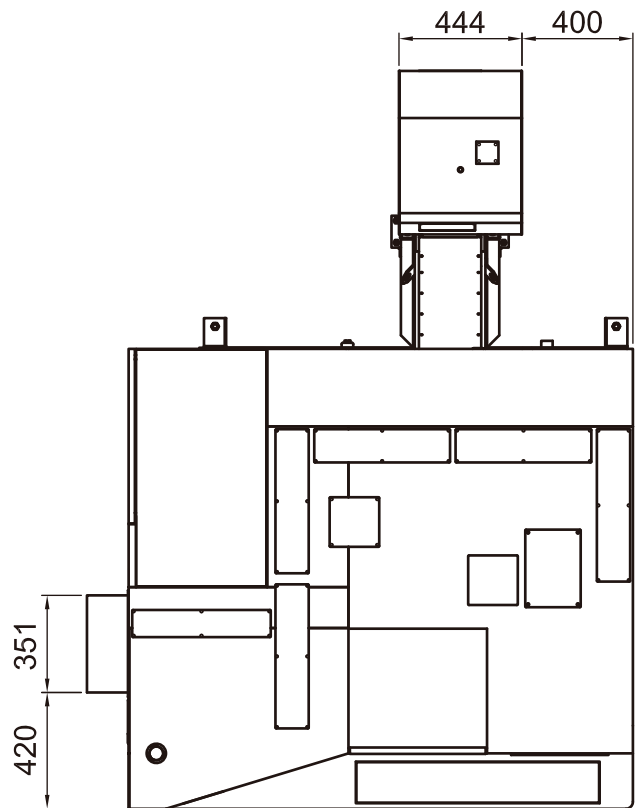


# FLOOR PLAN

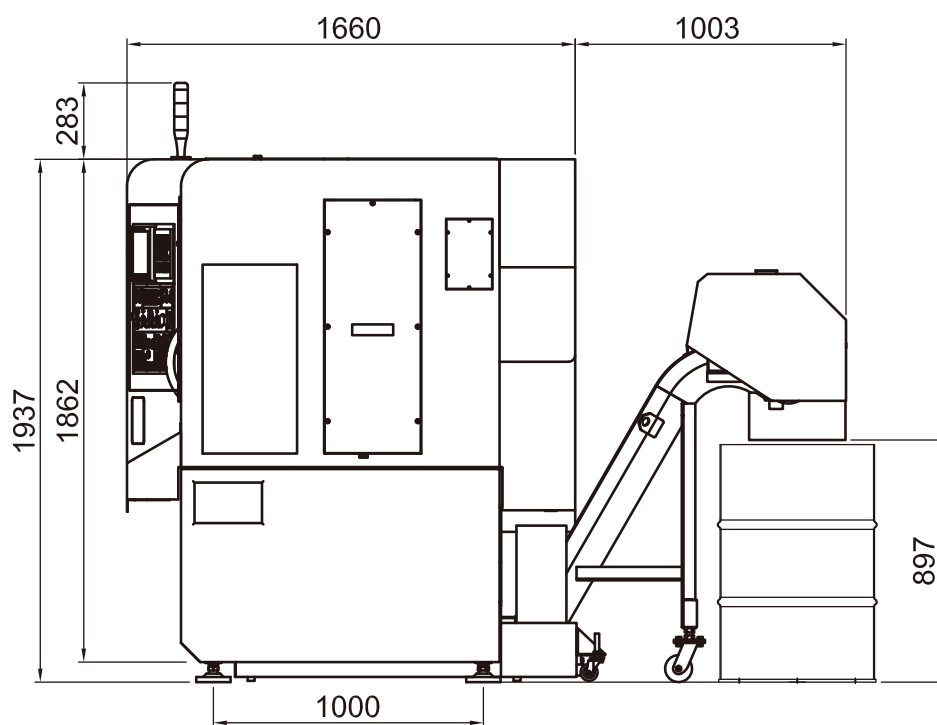
## FRONT VIEW



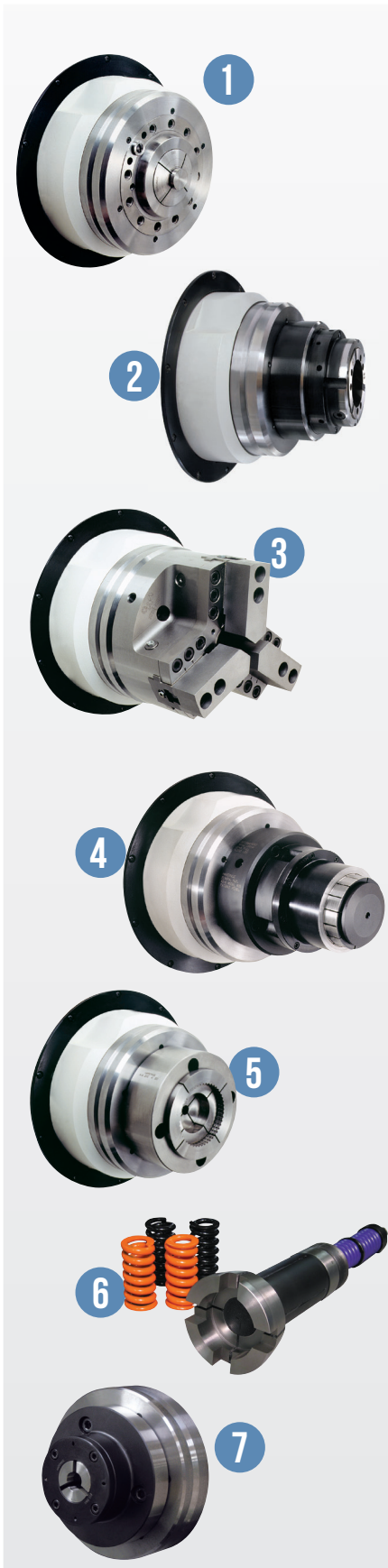
## TOP VIEW



## SIDE VIEW



# WORKHOLDING FLEXIBILITY



## UNLIMITED FLEXIBLE WORKHOLDING OPTIONS

Hardinge is unique as a machine tool builder - we manufacture our own workholding products. Precision and accuracy is yours when you use Hardinge perfectly-mated workholding products.

### 1 COLLETS

Hardinge hardened and ground collets are inspected and measured in a Hardinge spindle. Collets are available in functional round, hex, square sizes, and round metric, as well as round serrated fractional and metric sizes. Use adjustable, machinable collet stops for accurate part positioning.

### EMERGENCY COLLETS

Emergency collets have a soft have with a pilot hole for customer drilling, boring, and stepping out to the exact size required. An optional extended nose permits deeper counter-bores when required and tool clearance for extended work.

### 2 FLEX™ QUICK-CHANGE VULCANIZED COLLET SYSTEMS

Interchangeable quick-change vulcanized collet heads have a working range of .020" (0.5mm) to accept bar stock variations. Collets change in seconds, while accuracy is maintained at .0004" (.01mm).

### STYLE "S" MASTER COLLETS AND PADS

pads can be changed much quicker than solid collets can. Pads cost less and use less storage space when compared to a standard solid collet. Choose from hardened and ground, semi-hard and emergency pads. Styles S16, S20, and S26 require a collet closer.

### 3 3-JAW POWER CHUCKS

Hardinge power chucks are lever operated, counter-centrifugal and dynamically balanced. Quick-change chucks are also available.

### 4 SURE-GRIP® EXPANDING COLLET SYSTEMS

The Hardinge Sure-Grip expanding collet provides high-precision, internal gripping. Collet style and spindle-mount styles are available, depending on the machine model.

Master Expanding Collets are a lower-cost alternative to Sure-Grip Expanding Collet Systems and include a dead-length feature.

### 5 STEP CHUCKS AND CLOSERS

Step Chucks and Closers are used to accurately hold larger diameter parts.

### 6 FORCE-LIMITING STEP CHUCK

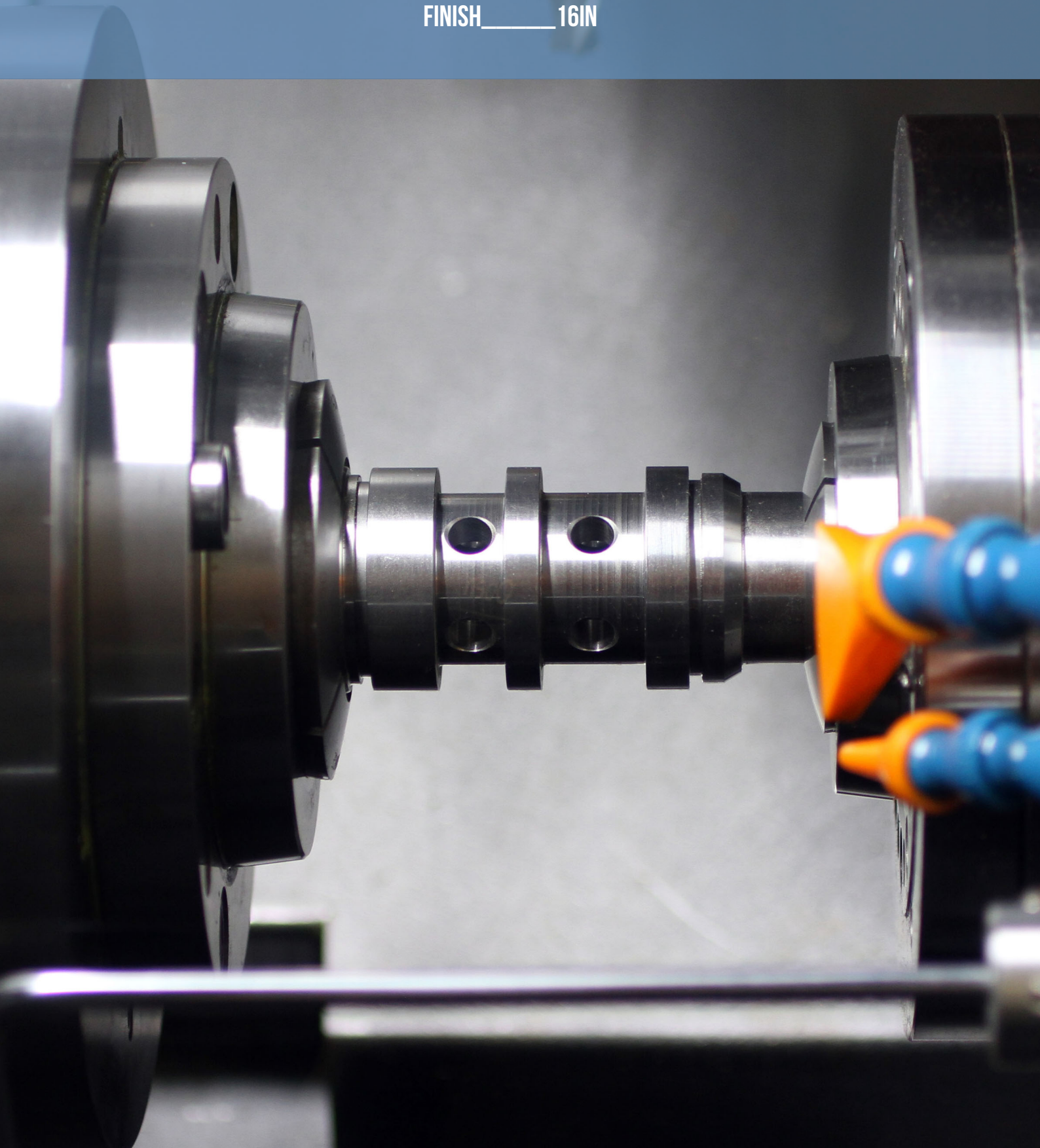
The Hardinge force-limiting step chuck has built-in force control to safely grip thin-wall parts. Maintain inside and outside concentricity in a fail-safe process, while eliminating the nuisance of manually tweaking the draw bar.

### 7 DEAD-LENGTH® SYSTEMS

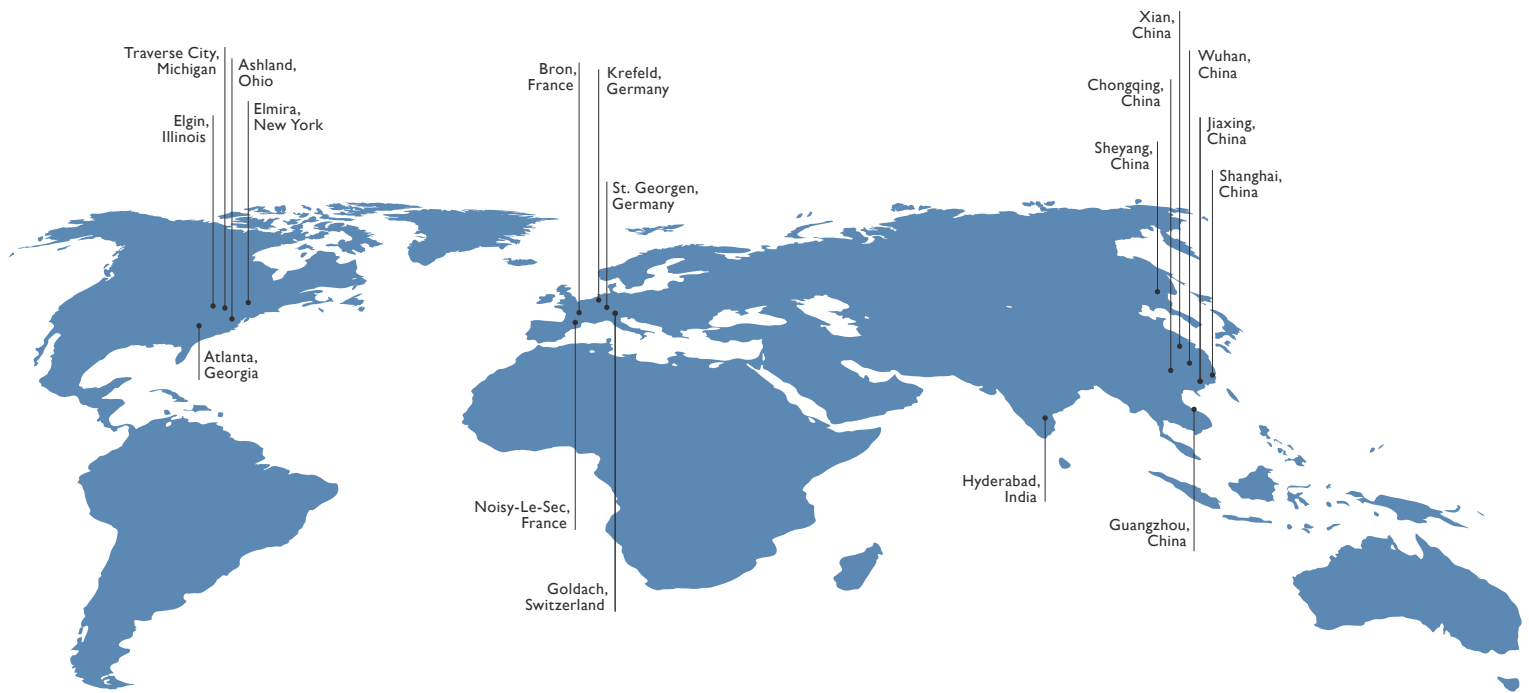
Maintain part-length control by using Hardinge dead-length systems. Choose from dead-length collet assemblies, thru-hole collets, step chucks and spider-step chucks.

# RING GEAR

ROUNDNESS 0.0127MM (.0005")  
DIAMETER 47.75MM (1.88")  
FINISH 16IN



# HARDINGE WORLDWIDE



Hardinge is a leading international provider of advanced metal-cutting solutions. We provide a full spectrum of highly reliable CNC turning, grinding, and honing machines as well as technologically advanced workholding accessories.

The diverse products we offer enable us to support a variety of market applications in industries including aerospace, agricultural, automotive, construction, consumer products, defense, energy, medical, technology, transportation and more.

We've developed a strong global presence with manufacturing operations in North America, Europe, and Asia. Hardinge applies its engineering and applications expertise to provide your company with the right machine tool solution and support every time.

## AMERICAS

**GEORGIA**  
Hardinge Corporate  
79 W Paces Ferry Rd, 2F  
Atlanta, GA 30305  
P. +800.843.8801

**ILLINOIS**  
Hardinge  
1755 Britannia Dr  
Unit 1A  
Elgin, IL 60124  
P. +800.843.8801

**MICHIGAN**  
Forkardt  
2155 Traversefield Dr  
Traverse City, MI 49686  
P. +800.544.3823  
E. tcsales@forkardt.com

**NEW YORK**  
Hardinge  
1 Hardinge Drive  
Elmira, NY 14903  
P. +800.843.8801  
E. info@hardinge.com

**OHIO**  
Ohio Tool Works  
1374 Enterprise Parkway (TR 743)  
Ashland, OH 44805  
P. +419.281.3700  
E. sales@ohiotoolworks.com

## EUROPE

**SCHWEIZ**  
Hardinge Kellenberger AG  
Thannäckerstrasse 22  
CH-9403 Goldach  
P. +41 71 2429111  
E. info@kellenberger.net

**DEUTSCHLAND**  
Hardinge GmbH  
Fichtenhain A 13c  
47807 Krefeld  
P. +49 2151 496490  
E. info@hardinge-gmbh.de

J.G. Weisser Söhne GmbH  
Johann-Georg-Weisser-Straße 1  
78112 St. Georgen  
P. +49 7724 881-0  
E. info@weisser-web.com

**FRANKREICH**  
Jones & Shipman SARL  
8 Allée des Ginkgos  
BP 112-69672  
Bron Cedex, France  
P. +33 472 812660

## ASIA

**CHINA**  
Hardinge Machine  
(Shanghai) Co. Ltd.  
1388 East Kangqiao Road  
Pudong, Shanghai 201319  
P. +86 21 3810 8686