HARDINGE
TALENT SERIES

TALENT 42
TALENT 51

800-843-8801
WWW.HARDINGE.COM
The Hardinge TALENT® Series machines offer an exceptional combination of features for accuracy, flexibility and durability in a compact design. The unique collet-ready main and sub-spindle design will increase part accuracy and improve surface finish. The TALENT® Series offers two separate base structures, short bed and standard bed lengths, which feature a robust one-piece cast iron base, heavy duty roller linear guideways and ballscrews, with many standard value-added features — thru-tool and headwall coolant, foot switches, chip conveyor interface, and external air hose and gun. The machine features the FANUC OiTF control which include many value added features.

**FEATURES**
- A2-5 16C collet-ready spindle (TALENT 42)
- A2-6 20C CFS collet-ready spindle (TALENT 51)
- BMT 45 live tooling 12-station with ⅛ Index capability
- Central grease lubrication (manual)
- Foot switch main spindle chuck/collet – open/close
- Foot switch sub-spindle chuck/collet – open/close
- Three color stack light
- Headwall coolant (main & sub-spindle)
- Bar feed interface
- Chip conveyor interface

**AVAILABLE MODELS**

**TALENT 42 Short Bed**  
- MY (Milling / Y-axis)

**TALENT 42 Standard Bed**  
- MYT (Milling / Y-axis / Tailstock)
- MSY (Milling / Sub-spindle / Y-axis)

**TALENT 51 Short Bed**  
- MY (Milling / Y-axis)

**TALENT 51 Standard Bed**  
- MYT (Milling / Y-axis / Tailstock)
- MSY (Milling / Sub-spindle / Y-axis)
ROCK DRILL

DIAMETRICAL TOLERANCE .0005" (0.0127MM)
DIAMETER 5.1" (130MM)
FINISH 32 µIN
**COLLET-READY MAIN SPINDLE**

The Hardinge collet-ready spindle is the most versatile machine spindle in the industry — it is uniquely designed to accept both collets and jaw chucks without the use of an adaptor. Because the collet seats directly in the spindle, the workpiece is held close to the spindle bearings which provides the ultimate in accuracy, rigidity and gripping force. It also allows for maximum spindle RPMs which increases productivity. This exclusive design also offers numerous workholding capabilities including solid collets, master collets, dead length collets, step chucks, 3-jaw chucks and FlexC collets systems.

**COLLET-READY SUB-SPINDLE**

The belt driven sub spindle features a 10HP (7.5kW) motor with a speed range of up to 6,000RPM. The A2-5/16C collet-ready spindle allows for the use of a complete assortment of spindle tooling including collets and jaw chucks. It also includes a hydraulic collet-closer and rigid tapping is standard. Please note that step chucks are not compatible on sub-spindle.

**HARDINGE CFS SPINDLE**

The spindle design is both collet and jaw chuck-ready and does not require a spindle adaptor. Hardinge C Style collets seat directly into the spindle closest to the bearings, so that spindle accuracy is transferred directly to the workpiece. Take advantage of using maximum spindle speeds and feeds, utilizing the maximum working envelope with quick job to job changeover from bar work to chucking, allowing for higher part to part accuracy, better surface finish with longer tool life capability.

Two main spindle configurations to choose from:

- Hardinge A2-5 16C Collet Ready with 42mm thru-spindle capacity
- Hardinge CFS* Global work holding spindle adaptation system with 51mm thru-spindle capacity

*Available on TALENT 51 only
Y-AXIS
Y-axis capability is a huge productivity enhancement on a turn/mill machine tool. To get Y-axis motion, an extra set of ways is used to move the live tool across the face of the spindle. By adding a third linear axis to the turning-center turret it enables rotary cutters to machine across the spindle center line thus greatly expanding the milling capabilities of the machine.

TAILSTOCK
The servo driven tailstock features a non quill style body and is fully programmable with torque control to set the tailstock force, as well as advance or retract between machining cycles. Multiple positioning is possible to allow for multiple bar feed out applications. The system will accommodate either a live or dead center with a #4 Morse taper.

MACHINE OPTIONS
- Central grease lubrication (auto pump lubrication)*
- Coolant & air management systems
  - Coolant through main & sub-spindle
  - Med. pressure coolant with max. 300 PSI
  - Mist collector unit
  - Headwall airblast main & sub-spindle
- Power transformer
- Auto door
- Measurement systems
  - Tool touch probe – Renishaw
  - Component part probe – Renishaw
- Chip management systems
  - Right side hinge type chip conveyor
  - Right side scraper type chip conveyor
- Component part handling
  - Parts catcher - main spindle to trap-door
  - Parts catcher – main spindle with parts conveyor
- Sub-spindle part detection
- Sub-spindle part ejection
- Live center, #4 morse taper for tailstock
- 8 sets of spare M codes
- BMT 45 16-station live tooling turret (no half index capability)
- BMT 45 statics tooling package
* factory order only

MACHINE BASE
The latest software design platform and FEA (Finite Element Analysis) techniques were used to design and build 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 assembled machine. Extreme-case loadings are used to verify adverse machining conditions.
PROGRMMING FUNCTIONS

- Absolute/Incremental Programming
- Additional Custom Macro Variables
- Alarm Display
- Auto Acceleration/Deceleration
- Auto Coordinate System Setting
- Background Editing
- Canned Cycles (Drilling)
- Chamfer/Circle 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, 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)
- Multi Spindle Control
- Program Number Search
- Programmable Parameter Input
- Reference Point Return
- Registered Part Program Storage (125)
- Rigid Tapping
- Spindle Orient Main & Sub (Std. on Live Tooling Models)
- Spindle Synchronization (Main & Sub)
- 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
- Workpiece Coordinate System (G52-G59)
- Standard Option

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
- Polar Coordinate Interpolation
- Cylindrical Interpolation

*North American standard. Siemens available
<table>
<thead>
<tr>
<th>MAIN SPINDLE</th>
<th>TALENT® 42 MY</th>
<th>MYT, MSY</th>
<th>TALENT® 51 MY</th>
<th>MYT, MSY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collet Ready Spindle Config - ANSI</td>
<td>A2-5 / 16C</td>
<td>CFS/A2-6 / 20C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Draw Tube Type</td>
<td>Hydraulic</td>
<td>Hydraulic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Through Draw Tube Capacity</td>
<td>1.65” (42mm)</td>
<td>2” (51mm)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gripping Capacity with Step Chuck &amp; Closer</td>
<td>6” (152mm)</td>
<td>8” (203mm)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum Swing Over Way Cover</td>
<td>21.65” (550mm)</td>
<td>21.65” (550mm)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12-station max. turning diameter BMT45</td>
<td>11.41” (290mm)</td>
<td>11.41” (290mm)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16-station max. turning diameter BMT45</td>
<td>9.44” (240mm)</td>
<td>9.44” (240mm)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turning Length - max (without chuck)</td>
<td>13.16” (334.5mm)</td>
<td>23.4” (594.5mm)</td>
<td>13.16” (334.5mm)</td>
<td>23.4” (594.5mm)</td>
</tr>
<tr>
<td>Turning Length - max (with chuck)</td>
<td>8.61” (218.9mm)</td>
<td>18.85” (478.9mm)</td>
<td>8.12” (206.3mm)</td>
<td>18.35” (466.2mm)</td>
</tr>
<tr>
<td>Max. Speed (1 rpm Steps)</td>
<td>6000 rpm</td>
<td>5000 rpm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Base Speed</td>
<td>1286 rpm</td>
<td>1071 rpm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuous Power Rating</td>
<td>1475HP (11 kW)</td>
<td>1475HP (11 kW)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum Power Rating</td>
<td>2480HP (18.5 kW)</td>
<td>2480HP (18.5 kW)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuous Torque Rating</td>
<td>81.6 Nm (60.24 ft.lb.)</td>
<td>98.1 Nm (72.31 ft.lb.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum Torque Rating</td>
<td>137.3 Nm (101.32 ft.lb.)</td>
<td>165 Nm (121.7 ft.lb.)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SUB-SPINDLE</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Collet Ready Spindle Configuration</td>
<td>A2-5 / 16C</td>
</tr>
<tr>
<td>Draw Tube Type</td>
<td>Hydraulic</td>
</tr>
<tr>
<td>Through Draw Tube Capacity</td>
<td>1.65” (42mm)</td>
</tr>
<tr>
<td>Gripping Capacity with Chuck</td>
<td>5.5” (130mm)</td>
</tr>
<tr>
<td>Max. Speed (1 rpm Steps)</td>
<td>6000 rpm</td>
</tr>
<tr>
<td>Base Speed</td>
<td>1500 rpm</td>
</tr>
<tr>
<td>Continuous Power Rating</td>
<td>5HP (3.7 Kw)</td>
</tr>
<tr>
<td>Maximum Power Rating</td>
<td>15HP (11 Kw)</td>
</tr>
<tr>
<td>Continuous Torque Rating</td>
<td>23.5 Nm (17.3 ft.lb.)</td>
</tr>
<tr>
<td>Maximum Torque Rating</td>
<td>70 Nm (51.62 ft.lb.)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TURRET CONFIGURATIONS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>12 Station with ½ Index Capability</td>
<td>BMT 45/ DIN 1809</td>
</tr>
<tr>
<td>Drive Configuration (opt. 16 Station)</td>
<td>BMT 45/ DIN 1809</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LIVE TOOLING DRIVE SYSTEM</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. Speed (1 rpm Steps)</td>
<td>5000 rpm</td>
</tr>
<tr>
<td>Maximum Power Rating</td>
<td>5HP (3.7 Kw)</td>
</tr>
<tr>
<td>Maximum Torque Rating</td>
<td>26.1 Nm (19.3 ft.lb.)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TRAVELS AND FEED RATES</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>X Axis Travel Max - Live Tooling (BMT)</td>
<td>7.08” (180mm)</td>
</tr>
<tr>
<td>Z Axis Travel Max</td>
<td>15.43” (392mm)</td>
</tr>
<tr>
<td>Y Axis Travel Max</td>
<td>1.65” (+/- 42mm)</td>
</tr>
<tr>
<td>X and Z Axis Rapid Traverse Rates</td>
<td>30 m/min (1181 ipm)</td>
</tr>
<tr>
<td>Y Axis Rapid Traverse Rates</td>
<td>10 m/min (394 ipm)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MACHINE ACCURACY</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaluation Standard</td>
<td>ISO 230-2</td>
</tr>
<tr>
<td>Repeatability - X &amp; Z Axes (ISO)</td>
<td>0.000197” (0.005mm)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MACHINE DIMENSIONS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>101.1” (2567mm)</td>
</tr>
<tr>
<td>Depth</td>
<td>71.42” (1814mm)</td>
</tr>
<tr>
<td>Height</td>
<td>76.1” (1932mm)</td>
</tr>
<tr>
<td>Weight</td>
<td>10,802 lbs (4900 kg)</td>
</tr>
<tr>
<td>Power Requirements volts/amps/phase</td>
<td>220V/67 FLA/ 3 phase</td>
</tr>
<tr>
<td>Air Requirements</td>
<td>70-90 PSI (4.8-6.2 bar)</td>
</tr>
</tbody>
</table>
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 SUPER-PRECISION® spindle. Collets are available in fractional round, hex and square sizes and round metric, as well as round serrated fractional and metric sizes. Use adjustable, machinable collet stops for accurate part positioning.

2 FLEXCTM QUICK-CHANGE VULCANIZED COLLET SYSTEMS
Interchangeable quick-change vulcanized collet heads have a working range of ± 0.020" (0.5mm) to accept bar stock variation. Collets change in seconds, while accuracy is maintained at .0004" (.010mm).

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 solutions with true parallel 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.
* Main spindle only

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-stop step chucks. 16C to #22 B&S adapter shown on A2-5 sub-spindle.
RING GEAR

ROUNDNESS .0005” (0.0127MM)
DIAMETER 6.88” (175MM)
FINISH 16 µIN
Hardinge is a leading international provider of advanced metal-cutting solutions. We provide a full spectrum of highly reliable CNC turning, milling, and grinding 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.

HARDINGE COMPANIES WORLDWIDE

AMERICAS
Pennsylvania
Hardinge Corporate
1235 Westlakes Drive
Suite 410
Berwyn, PA 19312

New York
Hardinge
One Hardinge Drive
Elmira, NY 14903
P. 800-843-8801
E. info@hardinge.com
www.hardinge.com

Illinois
Hardinge
1524 Davis Road
Elgin, IL 60123
P. 800-843-8801

ASIA
China
Hardinge Machine
(Shanghai)Co. Ltd.
1388 East Kangqiao Road
Pudong, Shanghai 201319
P. 0086 21 3810 8686

Taiwan
Hardinge Taiwan Precision Machinery Limited
4 Tzu Chiang 3rd Road
Nan Tou City 540
Taiwan
P. 886 49 2260 536
E. cs@hardinge.com.tw

EUROPE
France
Jones & Shipman SARL
8 Allee des Ginkgos
BP 112 69672
Bron Cedex, France

Germany
Hardinge GmbH
Fichtenhain A 13c
47807 Krefeld
P. 49 2151 49649 10
E. info@hardinge-gmbh.de

Switzerland
L. Kellenberger & Co. AG
Heiligkreuzstrasse 28
CH 9008 St. Gallen
Switzerland
P. 41 71 2429111
E. info@kellenberger.net

United Kingdom
Jones & Shipman
Hardinge Ltd.
Murray Field Road
Leicester LE3 1UV
P. 44 116 201 3000
E. info@jonesshipman.com

800-843-8801  •  info@hardinge.com  •  parts@hardinge.com  •  service@hardinge.com
WWW.HARDINGE.COM  •  WWW.SHOPHARDCINGE.COM