



# DX 200 Series

CNC Turning Centers



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CNC Turning Center

## OVERVIEW

DX 200 Series offers a range of high technology CNC Turning Center to deliver fastest throughput needed in present competitive market. This range is the result of continuous innovative development made by Jyoti in the field of machine tools ever since we have started manufacturing CNC Turning Center. The Series is resultant of innovation and customer feedback for performance in the product. With unique features, DX 200 delivers optimum performance to match demand of various sized workpiece applications.



## RIGID STRUCTURE

The rigid bed and single piece 30° slant saddle are made out of high grade cast iron for stability and least distortion enabling heavy cuts and faster production. With virtually no vibration, it means higher surface finish even on hard materials. Step-up structure concept enables consistent machining performance even for larger diameter jobs due to widely spaced guide ways.

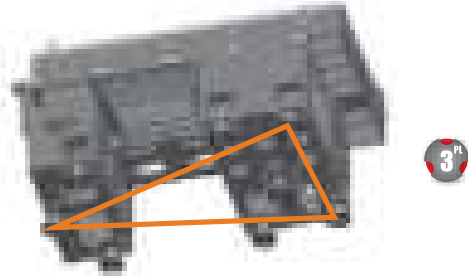
## EFFICIENT CHIP DISPOSAL

Ergonomically designed concept of DX 200 Series enables it to give efficient chip disposal, with such design chips will directly fall down into chip tray and also removing of chips from chip tray without disturbing of machining.



### 3-POINT LEVELING SYSTEM

Due to high rigid base design and 3 point leveling effect of bed twisting can be eliminated. Quick Installation and relocation of DX 200 series made easy with this feature.



### HEADSTOCK & SPINDLE

Headstock is made from closed grain FG 300 casting and provided with fins for better heat dissipation.

Main spindle is manufactured in-house using world class machinery and assembled in a dust free temperature controlled environment. Spindle is housed in a cartridge with 3 super precision angular contact bearings in the front and 2 angular contact bearings at the rear end. This arrangement takes care of radial as well as axial loads.

### HIGH SPEED SERVO TURRET

DX 200 Series machine are equipped with high speed and high precision Bi-directional Servo Turret with hydraulic clamping system achieved by 3-piece Hirth coupling. Tool change time is just 0.5 second which help to reduce cycle time.

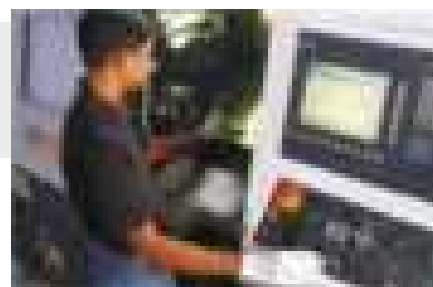


### TAILSTOCK

A manually movable tailstock with hydraulically actuated quill is a standard feature of the machine. Programmable tailstock with hydraulic movement is offered as an option.

### ERGONOMIC DESIGN

The newly designed Easy-to-Operate, Operating Panel of the machine is made considering the reliability and human comfort and operator friendliness.



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## PRODUCTIVITY IMPROVING OPTIONS

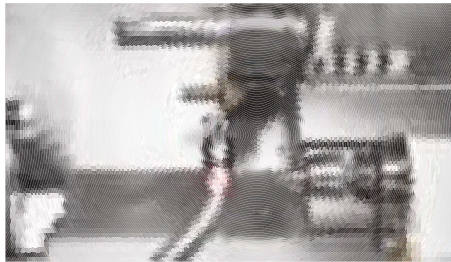
DX 200 Series design concept gives flexibility for a user having variety of shafts from small to larger lengths can combine options of steady rest and programmable tailstock giving better edge for batch type variety productions.



Steady Rest



Programmable Tailstock



Tool Measuring Probe

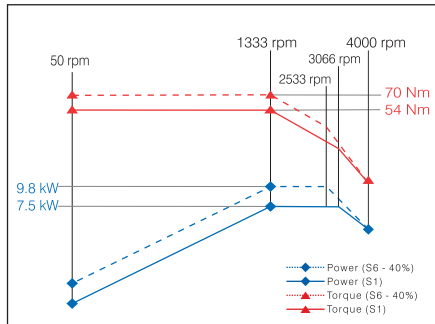


Part Catcher

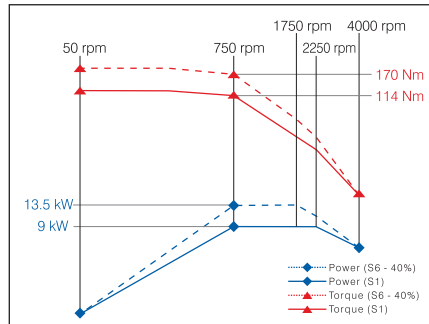
A combination of bar feeder, bar puller & part catcher can really give impetus for mass production type of application from long bars.

## POWER TORQUE DIAGRAM

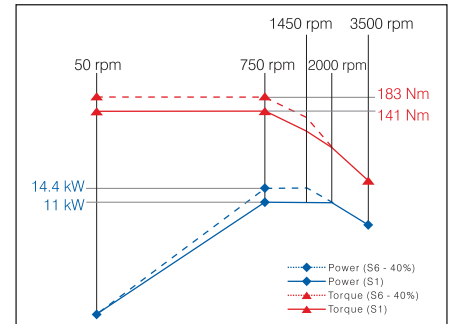
9.8 / 7.5 kW, 4000 rpm (Siemens)



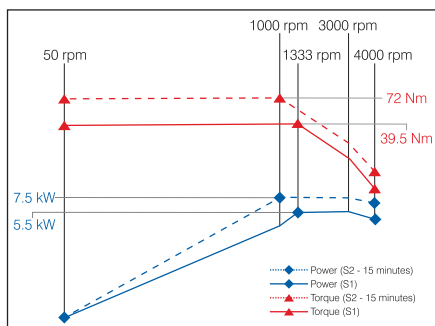
13.5 / 9 kW, 4000 rpm (Siemens)



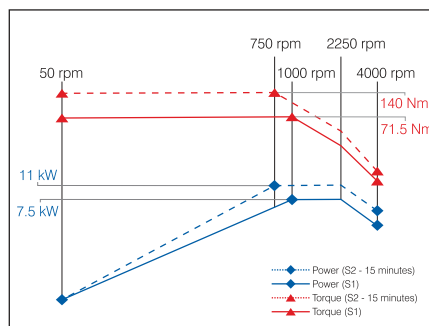
14.4 / 11 kW, 3500 rpm (Siemens)



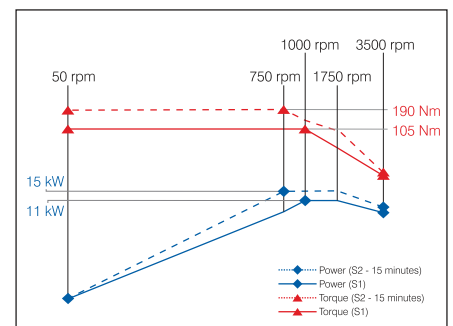
7.5 / 5.5 kW, 4000 rpm (Fanuc)



11 / 7.5 kW, 4000 rpm (Fanuc)



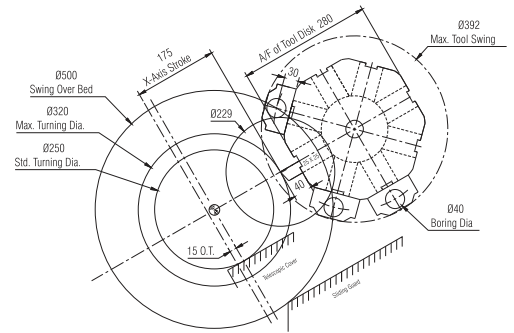
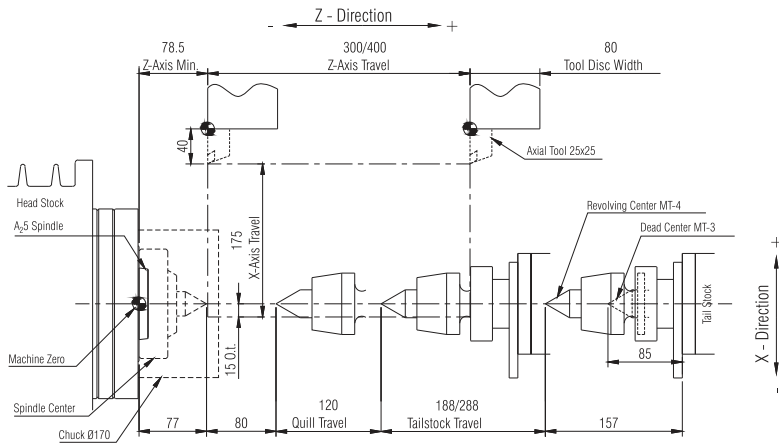
15 / 11 kW, 3500 rpm (Fanuc)



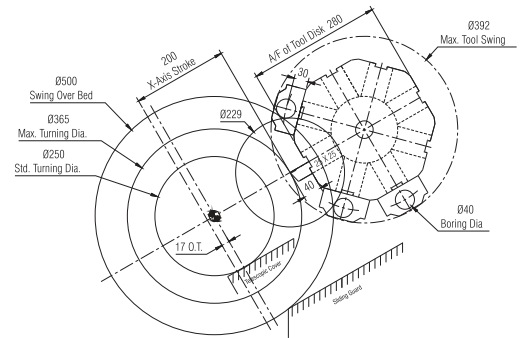
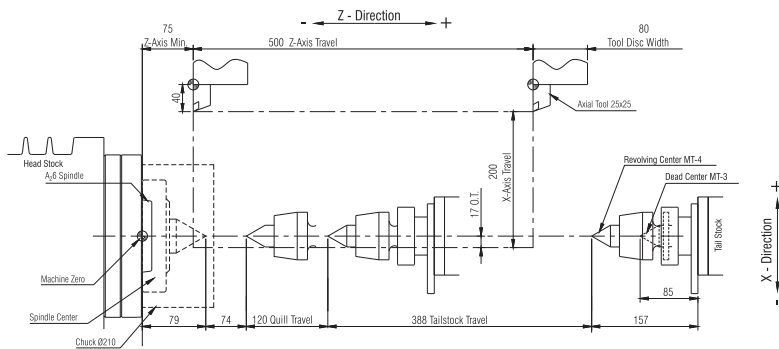


## MACHINING RANGE & INTERFERENCE DIAGRAM

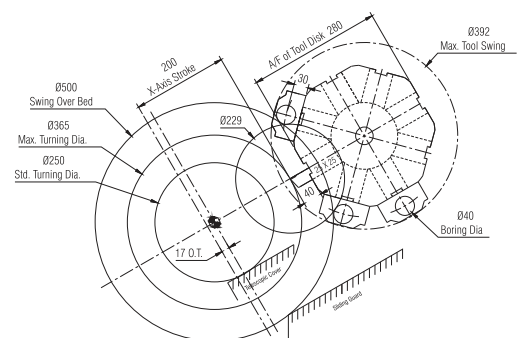
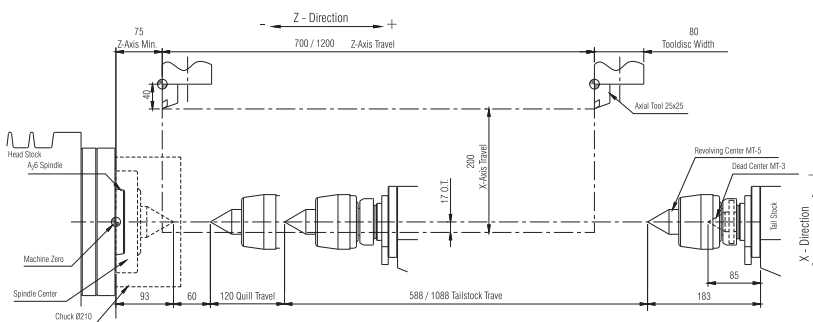
### DX 200 - 3 / DX 200 - 4



### DX 200 - 5



### DX 200 - 7 / DX 200 - 12



## TECHNICAL SPECIFICATION

|                                       | DX 200 - 3 A   | DX 200 - 3 B   | DX 200 - 4 A   | DX 200 - 4 B   | DX 200 - 5 A   | DX 200 - 5 B   | DX 200 - 7 A   | DX 200 - 7 B   | DX 200 - 12 A  | DX 200 - 12 B  |
|---------------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Swing Over Bed                        | 500            | 500            | 500            | 500            | 500            | 500            | 500            | 500            | 500            | 500            |
| Std. Turning Dia.                     | 250            | 250            | 250            | 250            | 250            | 250            | 250            | 250            | 250            | 250            |
| Max. Turning Dia.*                    | 320            | 320            | 320            | 320            | 365            | 365            | 365            | 365            | 365            | 365            |
| Max. Turning Length*                  | 300            | 300            | 400            | 400            | 500            | 500            | 700            | 700            | 1200           | 1200           |
| <b>Slides</b>                         |                |                |                |                |                |                |                |                |                |                |
| X-Axis Travel (Cross)                 | 175            | 175            | 175            | 175            | 200            | 200            | 200            | 200            | 200            | 200            |
| Z-Axis Travel (Longitudinal)          | 300            | 300            | 400            | 400            | 500            | 500            | 700            | 700            | 1200           | 1200           |
| Rapid Feed (X & Z Axis)               | 24             | 24             | 24             | 24             | 24             | 24             | 24             | 24             | 24             | 24             |
| <b>Main Spindle</b>                   |                |                |                |                |                |                |                |                |                |                |
| Spindle Motor Power - Siemens         | 9.8 / 7.5      | 13.5 / 9       | 9.8 / 7.5      | 13.5 / 9       | 13.5 / 9       | 14.4 / 11      | 13.5 / 9       | 14.4 / 11      | 13.5 / 9       | 14.4 / 11      |
| Spindle Motor Power - Fanuc           | 7.5 / 5.5      | 11 / 7.5       | 7.5 / 5.5      | 11 / 7.5       | 11 / 7.5       | 15 / 11        | 11 / 7.5       | 15 / 11        | 11 / 7.5       | 15 / 11        |
| Spindle Speed Range                   | 50-4000        | 50-4000        | 50-4000        | 50-4000        | 50-4000        | 50-3500        | 50-4000        | 50-3500        | 50-4000        | 50-3500        |
| Spindle Bore                          | 55             | 70             | 55             | 70             | 70             | 90             | 70             | 90             | 70             | 90             |
| Spindle Nose                          | A <sub>5</sub> | A <sub>6</sub> | A <sub>5</sub> | A <sub>6</sub> | A <sub>6</sub> | A <sub>8</sub> | A <sub>6</sub> | A <sub>8</sub> | A <sub>6</sub> | A <sub>8</sub> |
| Max. Bar Capacity**                   | 44             | 52             | 44             | 52             | 52             | 75             | 52             | 75             | 52             | 75             |
| <b>Turret</b>                         |                |                |                |                |                |                |                |                |                |                |
| No. of Station                        | 8              | 8              | 8              | 8              | 8              | 8              | 8              | 8              | 8              | 8              |
| Max. Boring Bar Dia.                  | 40             | 40             | 40             | 40             | 40             | 40             | 40             | 40             | 40             | 40             |
| Tool Size (Cross Sectional)           | 25 x 25        | 25 x 25        | 25 x 25        | 25 x 25        | 25 x 25        | 25 x 25        | 25 x 25        | 25 x 25        | 25 x 25        | 25 x 25        |
| <b>Tail Stock</b>                     |                |                |                |                |                |                |                |                |                |                |
| Quill Dia.                            | 85             | 85             | 85             | 85             | 85             | 85             | 85             | 85             | 85             | 85             |
| Quill Stroke                          | 120            | 120            | 120            | 120            | 120            | 120            | 120            | 120            | 120            | 120            |
| Thrust                                | 300            | 300            | 300            | 300            | 500            | 500            | 500            | 500            | 500            | 500            |
| <b>Accuracy (as Per VDI/DGQ 3441)</b> |                |                |                |                |                |                |                |                |                |                |
| Positioning Uncertainty (P)           | 0.007          | 0.007          | 0.007          | 0.007          | 0.007          | 0.007          | 0.010          | 0.010          | 0.010          | 0.010          |
| Repeatability (Ps Medium)             | 0.005          | 0.005          | 0.005          | 0.005          | 0.005          | 0.005          | 0.005          | 0.005          | 0.005          | 0.005          |
| <b>Other Data</b>                     |                |                |                |                |                |                |                |                |                |                |
| Machine Weight (Approx.)#             | 3000           | 3100           | 3000           | 3100           | 3400           | 3500           | 4300           | 4400           | 4800           | 4900           |
| Machine Dimension (Approx.)#:         |                |                |                |                |                |                |                |                |                |                |
| Length                                | 2150           | 2150           | 2150           | 2150           | 2350           | 2350           | 3125           | 3125           | 3625           | 3625           |
| Width                                 | 1440           | 1440           | 1440           | 1440           | 1540           | 1540           | 1800           | 1800           | 1800           | 1800           |
| Height                                | 1770           | 1770           | 1770           | 1770           | 1710           | 1710           | 1715           | 1715           | 1715           | 1715           |

\* Depends upon clamping arrangement, Tooling and Job. \*\* Bar Capacity - Depends on appropriate clamping between chuck and cylinder as well as make of chuck.  
# Refer Machine Detailed Layout for overall machine dimensions & space requirements.

## CONTROL SYSTEM

The CNC System offered with the DX 200 series machine is with latest digital controller from FANUC 0i TF Plus or SIEMENS 828D.

## STANDARD FEATURES

- AC Spindle Drive
- AC SERVO Digital Drive
- L.M. Guideways
- Hydraulic Chucking
- 8 Station Bi-Directional Servo Turret
- Auto & Manual Coolant System

- Centralised & Programmable Lubrication
- Laser Calibrated Axis for Highly Precise Positioning Accuracy and Repeatability
- Electricals with Quality Devices & Panel with AC
- Tailstock with Hydraulic Quill

## PRODUCTIVITY IMPROVING OPTIONS

- Industry 4.0 Compliant with 7<sup>th</sup> Sense
- Chip Conveyor
- Bar Feeder
- Bar Puller
- Part Catcher
- Programmable Tailstock

- Auto Door
- Gantry / Robot Interfacing
- Live Quill (Built-in Revolving Center)
- Steady Rest
- Follower Rest for DX 200 - 7/12
- Two Speed Gear Box for A<sub>6</sub> Spindle

- 12 Station Turret
- Manual Guide-0i (Fanuc)
- Easy SMS System (Siemens)
- Shopturn (Siemens)
- Fully Tooling up Solution