Lynx 220 Y series
High-productivity Compact Turning Center Added with Y-axis
High-productivity Compact Turning Center with Y-axis Based on Lynx Series

**Lynx Y series**

Lynx Y series addition of stable and rigid Y-axis based on Lynx model makes possible to complete machining in 1 set-up. The longest Y-axis off-center machining is available, and through reducing cycle time and non cutting time provides your productivity improvement. LM guide structure makes high precision and speed, so this helps machining ability. Also, new Doosan operation panel designed ergonomically provides convenience.
Features

1. **Added with Y-axis**
   - The addition of Y-axis to the Lynx Series provides travel stability, higher precision and higher rigidity leading to improved productivity.

2. **High productivity**
   - All the axes are applied with fast, accurate and high rigidity, roller-type LM guide to minimize idle time and maximize productivity.

3. **Operation Convenience**
   - New Doosan operation panel designed ergonomically and 10.4” color LCD provides convenient operation for operators.
Added with Y-axis

The addition of Y-axis to the Lynx Series provides travel stability, higher precision and higher rigidity leading to improved productivity.

**Virtual Y-axis function**

In the Y-axis plane, tools can move in a plus or minus direction perpendicular to the Z-axis and spindle center line. Viewed from the operator's perspective, this Y-axis motion is toward or away from the door of the machine while X-axis moves from floor to ceiling. Y-axis enables various shape of cutting. Y-axis is realized virtually by the linear interpolation and synchronous movement of X1 and X2-axis that make it possible to lower machine height for stability.

**Y-axis travel distance** 105 (±52.5) mm (4.1 (±2.1) inch)

**Y-axis rapid traverse rate** 10 m/min

**All enough in single setup**

Simultaneous XYZ motion provides the capability milling complex shapes. In addition, the rigidly clamped C-axis disc brake enables heavy duty and precision machining.
Basic Structure

High Rigid & Stable Machine Structure
Having roller type LM Guide at all axes applies high rigidity and high accuracy.

<table>
<thead>
<tr>
<th>Travel distance</th>
<th>Rapid Traverse Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>X-axis</strong></td>
<td><strong>Y-axis</strong></td>
</tr>
<tr>
<td><strong>Z-axis</strong></td>
<td></td>
</tr>
<tr>
<td><strong>205 mm (8.1 inch)</strong></td>
<td><strong>30 m/min</strong></td>
</tr>
<tr>
<td><strong>350 mm (13.8 inch) (Y)</strong></td>
<td><strong>36 m/min</strong></td>
</tr>
<tr>
<td><strong>560 mm (22.0 inch) (LY / LSY)</strong></td>
<td></td>
</tr>
</tbody>
</table>

Max. Turning length

**300 mm (11.8 inch) (220Y)**  **510 mm (20.1 inch) (220LY / LSY)**

Capacity

<table>
<thead>
<tr>
<th></th>
<th>Lynx 220YA / LYA / LSYA</th>
<th>Lynx 220YC / LYC / LSYC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spindle speed</td>
<td><strong>6000 r/min</strong></td>
<td><strong>4500 r/min</strong></td>
</tr>
<tr>
<td>Max. Turning diameter</td>
<td><strong>300 mm (11.8 inch)</strong></td>
<td></td>
</tr>
<tr>
<td>Bar working diameter</td>
<td><strong>51 mm (2.0 inch)</strong></td>
<td><strong>65 mm (2.6 inch)</strong></td>
</tr>
<tr>
<td>Chuck size</td>
<td><strong>6 inch</strong></td>
<td><strong>8 inch</strong></td>
</tr>
</tbody>
</table>
High productivity

All the axes are applied with fast, accurate and high rigidity, roller-type LM guide to minimize idle time and maximize productivity.

Turret

Turret Indexing time (1 station swivel) \(0.11\) s

Max. Rotary tool speed \(6000\) r/min

Productivity Effect

Workpiece: Machinery Component
Material: Aluminum (AL7075)
Workpiece size: Ø70 x 35 mm
Cutting tool: 16 set

Finished processing time comparison

<table>
<thead>
<tr>
<th>General Cutting Process</th>
<th>Machine 1</th>
<th>+</th>
<th>Machine 2</th>
<th>Lynx 220 LSY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Setting 10 sec</td>
<td>Turning Cutting 1 min 10 sec</td>
<td>manual transfer 1 min</td>
<td>Setting 30 sec</td>
<td>Milling Cutting 6 min 20 sec</td>
</tr>
<tr>
<td>Lynx 220 LSY</td>
<td></td>
<td></td>
<td></td>
<td>2 min 13 sec</td>
</tr>
</tbody>
</table>

* Cutting time curtailment: Tool change time & Rapid traverse rate Calculation

Productivity 25% Improved

Lynx Series added with SY-axis, enabling One Set-up → Save time, reduce labor, high accuracy!

1 set-up / 1 operator

2 set-up / 2 operators
Operation Convenience

New Doosan operation panel designed ergonomically and 10.4” color LCD provide convenient operation for operators.

Doosan’s New Operation Panel

- 1. 10.4” color LCD : Easy to control and programming
- 2. Unique operator panel of Doosan Infracore designed with membrane switches
- 3. New operator panel for all the models with enhanced accessibility
- 4. User configurable, detachable buttons to set up customized options

Power Saving Function

Automatic machine light turns off

This is a smart function that can turn off the machine light automatically when no user touches the keyboard of operation panel during specified time.

Automatic machine sleep

If CNC operator’s panel has not been used for a time, the motors for spindle, servo axis, coolant pump and chip conveyor etc. are powered off automatically. It is effective to reduce standby power. Save up to 10% to 14%.

EZ Function

This function is to support simple setting of Tool Setter and improve the function to set tail stock position automatically with recorded tail stock position.

EZ automatic tail stock function (LY)

This function enables the position setting of tail stock automatically. In programmable tail stock, the Z-axis position of tail stock is recorded automatically as the clamped position of tail stock. When tail stock needs to move to the other position, Z-axis moves to the pre-recorded position of Z-axis and tail stock unclamps by the button of Operation Panel.

EZ tool setter function

This is specially designed for improving the efficiency of CNC turning center. If a user selects target tool to be checked by Tool Setter in manual mode, its moving axis is advanced forward to make the setter easy to touch off the tools, and the axis moves backward after touching the tool automatically.
Easy Operation Package

These DOOSAN software packages have been customized to provide user-friendly functions.

Programming

G Code list
Operator can check the meaning of each G-code.

M Code list
Operator can check the meaning of each M-code.

Calculator
Operator can calculate numerical formula in relation to arc and hole easily.

Operation / Maintenance

Tool load monitor
The main function of this software is to detect overload when a tool is wrong, and change it to an other tool. Stop machine to protect a tool holder and next tools by detecting overload caused by tool breakage or its wear. Use editable tool life management for spare tools. Monitor load meter for all spindles and axes. If the tool load reaches abnormal band recorded in “Set data”, the software issues an read hold alarm or skips the tool.

Operation rate - user log in
A major determinant of efficiency is the cost associated with setting up the equipment to make a particular product. This software can be used to manage machine operation rate of 3 operators. Total machine operation and real machining time for a month can be recorded and measured. It helps to evaluate and monitor each operational efficiency. To keep it secure, Password setting is essential.

Back up custom data
This can be used to record tool load information detected in “Tool load monitor” for all tools used during cutting. By reloading recorded data in tool table, Tool Load Monitor software can compare the actual tool load with a recorded load pattern.

Easy Guide i

Operation Guidance, which supports entire operations on an all-in-one screen for daily machining including creating a program on the machine.

- Uses one display screen to perform all operations including programming, checking by animation, and real machining.
- **User-Friendly Operation**
  - Soft key selection of comprehensive cycle library
  - Easy programming
  - Based on ISO-code program format, complex machining motions can be created easily by this menu format.

- Machine status window
  - Machine status such as actual position, feedrate and load meter are always displayed.
- **Realistic machining simulation**
  - 3-D solid model machining simulation is available.
- **Intuitive menu selecting**
  - Menu can be selected easily and intuitively by soft-keys with icons.

- **Cycle machining menus for both of lathe machining and milling are available**

- **Programming time can be reduced**

Cycle for lathe machining

- Drilling
- Bar roughing (including preformed work-piece)
- Bar finishing
- Threading (General purpose thread, metric, etc.)
- Grooving (Standard, Trapezoidal)
## Main Spindle

**Lynx 220YA / LYA / LSYA**

6000 r/min: 15 / 11 kW

<table>
<thead>
<tr>
<th>Torque: N·m (ft-lb)</th>
<th>Power: kW (Hp)</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 kW (20.1Hp) / 30min</td>
<td>15 / 11 kW</td>
</tr>
<tr>
<td>Max. 127N·m (93.7ft-lb) / 30min</td>
<td></td>
</tr>
<tr>
<td>Max. 93N·m (68.8ft-lb) / Cont.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Torque: N·m (ft-lb)</th>
<th>Power: kW (Hp)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.5kW (10.1Hp) / 30min</td>
<td>7.5kW (10.1Hp)</td>
</tr>
<tr>
<td>1.2N·m (1.6ft-lb)</td>
<td>1.2N·m (1.6ft-lb)</td>
</tr>
<tr>
<td>1.1N·m (1.5ft-lb)</td>
<td>1.1N·m (1.5ft-lb)</td>
</tr>
</tbody>
</table>

---

**Lynx 220YC / LYC / LSYC**

4500 r/min: 15 / 11 kW

<table>
<thead>
<tr>
<th>Torque: N·m (ft-lb)</th>
<th>Power: kW (Hp)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. 169N·m (124.7ft-lb) / 30min</td>
<td>15kW (20.1Hp)</td>
</tr>
<tr>
<td>Max. 120N·m (91.5ft-lb) / Cont.</td>
<td>7.5kW (10.1Hp)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Torque: N·m (ft-lb)</th>
<th>Power: kW (Hp)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.5kW (10.1Hp) / 30min</td>
<td>7.5kW (10.1Hp)</td>
</tr>
<tr>
<td>1.6N·m (2.1ft-lb)</td>
<td>1.6N·m (2.1ft-lb)</td>
</tr>
<tr>
<td>1.4N·m (1.9ft-lb)</td>
<td>1.4N·m (1.9ft-lb)</td>
</tr>
</tbody>
</table>

## Sub Spindle

**Lynx 220LSYA [LSYC]**

6000 r/min: 5.5 / 3.7 kW

<table>
<thead>
<tr>
<th>Torque: N·m (ft-lb)</th>
<th>Power: kW (Hp)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.5kW (10.1Hp) / 30min</td>
<td>5.5kW (10.1Hp)</td>
</tr>
<tr>
<td>Max. 47N·m (34.7ft-lb) / 30min</td>
<td>3.7kW (5.0Hp)</td>
</tr>
<tr>
<td>Max. 33N·m (24.9ft-lb) / Cont.</td>
<td>2.7kW (3.6Hp)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Torque: N·m (ft-lb)</th>
<th>Power: kW (Hp)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.9kW (5.2Hp) / 30min</td>
<td>3.9kW (5.2Hp)</td>
</tr>
<tr>
<td>2.7kW (3.6Hp) / Cont.</td>
<td>2.7kW (3.6Hp)</td>
</tr>
<tr>
<td>0.8N·m (1.1ft-lb)</td>
<td>0.8N·m (1.1ft-lb)</td>
</tr>
</tbody>
</table>

## Rotary Tool Spindle

**Lynx 220Y / SY / LSY**

6000 r/min: 3.7kW

<table>
<thead>
<tr>
<th>Torque: N·m (ft-lb)</th>
<th>Power: kW (Hp)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.7kW (5.0Hp) / 10min, S3 25%</td>
<td>3.7kW (5.0Hp)</td>
</tr>
<tr>
<td>Max. 23.5N·m (17.3ft-lb)</td>
<td>1.1kW (1.5Hp)</td>
</tr>
<tr>
<td>Max. 7N·m (5.2ft-lb)</td>
<td>0.8 N·m (0.6ft-lb)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Torque: N·m (ft-lb)</th>
<th>Power: kW (Hp)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.9 N·m (4.4ft-lb)</td>
<td>5.9 N·m (4.4ft-lb)</td>
</tr>
<tr>
<td>0.8 N·m (0.6ft-lb)</td>
<td>0.8 N·m (0.6ft-lb)</td>
</tr>
</tbody>
</table>
Tool Interference

Lynx 220LY

Lynx 220LSY
External Dimensions

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
<th>J</th>
<th>K</th>
<th>L</th>
<th>M</th>
</tr>
</thead>
<tbody>
<tr>
<td>L220Y</td>
<td>2233</td>
<td>190 (A) / 220 (C)</td>
<td>50 (2.0)</td>
<td>2605</td>
<td>3299</td>
<td>734</td>
<td>1921</td>
<td>2243</td>
<td>10 (0.4)</td>
<td>1060</td>
<td>1702</td>
<td>2100</td>
<td>448</td>
</tr>
<tr>
<td></td>
<td>168 (6.6)</td>
<td>7.5 (0.3)</td>
<td>7.5 (0.3)</td>
<td>129.9</td>
<td>28.9</td>
<td>75.6</td>
<td>88.3</td>
<td>0.4 (0.0)</td>
<td>41.7</td>
<td>67.0</td>
<td>82.7</td>
<td>17.6</td>
<td></td>
</tr>
<tr>
<td>L220LY</td>
<td>2660</td>
<td>190 (A) / 220 (C)</td>
<td>50 (2.0)</td>
<td>3249</td>
<td>3726</td>
<td>734</td>
<td>1921</td>
<td>2243</td>
<td>10 (0.4)</td>
<td>1060</td>
<td>1702</td>
<td>2100</td>
<td>448</td>
</tr>
<tr>
<td></td>
<td>104 (4.1)</td>
<td>7.5 (0.3)</td>
<td>7.5 (0.3)</td>
<td>127.9</td>
<td>146.7</td>
<td>28.9</td>
<td>75.6</td>
<td>88.3</td>
<td>0.4 (0.0)</td>
<td>41.7</td>
<td>67.0</td>
<td>82.7</td>
<td>17.6</td>
</tr>
</tbody>
</table>

unit: mm (inch)
Working Range

Lynx 220LYA / LYC

unit: mm (inch)
Lynx 220LSYA / LSYC

Working Range

ID Tool

Double ID Tool

Triple ID Tool

Face Tool

OD Tool

unit: mm (inch)
Tooling System

Lynx 220Y / LY

Unit: mm (inch)
## Machine Specifications

<table>
<thead>
<tr>
<th>Description</th>
<th>Unit</th>
<th>Lynx 220YA</th>
<th>Lynx 220YC</th>
<th>Lynx 220LYA</th>
<th>Lynx 220LYC</th>
<th>Lynx 220LSYA</th>
<th>Lynx 220LSYC</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Capacity</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Swing over bed</td>
<td>mm (inch)</td>
<td>600 (23.6)</td>
<td>400 (15.7)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Swing over saddle</td>
<td>mm (inch)</td>
<td>400 (15.7)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recom. Turning diameter</td>
<td>mm (inch)</td>
<td>170 (6.7)</td>
<td>170 (6.7)</td>
<td>210 (8.3)</td>
<td>210 (8.3)</td>
<td>210 (8.3)</td>
<td>210 (8.3)</td>
</tr>
<tr>
<td>Max. Turning diameter</td>
<td>mm (inch)</td>
<td>300 (11.8)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. Turning length</td>
<td>mm (inch)</td>
<td>300 (11.8)</td>
<td>510 (20.1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chuck size</td>
<td>inch</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Bar working diameter</td>
<td>mm (inch)</td>
<td>51 (2.0)</td>
<td>65 (2.6)</td>
<td>51 (2.0)</td>
<td>65 (2.6)</td>
<td>51 (2.0)</td>
<td>65 (2.6)</td>
</tr>
<tr>
<td><strong>Travels</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Travel distance X-axis</td>
<td>mm (inch)</td>
<td>205 (8.1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Z-axis</td>
<td>mm (inch)</td>
<td>350 (13.8)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Y-axis</td>
<td>mm (inch)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C1, C2-axis</td>
<td>mm (inch)</td>
<td>360 (14.2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feedrate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. Spindle speed</td>
<td>r/min</td>
<td>6000</td>
<td>4500</td>
<td>6000</td>
<td>4500</td>
<td>6000</td>
<td>4500</td>
</tr>
<tr>
<td>Spindle nose</td>
<td>ASA</td>
<td>A2-5</td>
<td>A2-6</td>
<td>A2-5</td>
<td>A2-6</td>
<td>A2-5</td>
<td>A2-6</td>
</tr>
<tr>
<td>Spindle bearing diameter (Front)</td>
<td>mm (inch)</td>
<td>90 (3.5)</td>
<td>110 (4.3)</td>
<td>90 (3.5)</td>
<td>110 (4.3)</td>
<td>90 (3.5)</td>
<td>110 (4.3)</td>
</tr>
<tr>
<td>Spindle through hole</td>
<td>mm (inch)</td>
<td>61 (2.4)</td>
<td>76 (3.0)</td>
<td>61 (2.4)</td>
<td>76 (3.0)</td>
<td>61 (2.4)</td>
<td>76 (3.0)</td>
</tr>
<tr>
<td>Min. spindle indexing angle (C-axis)</td>
<td>deg</td>
<td>0.001</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. of tool stations</td>
<td>ea</td>
<td>12 (24 Position Index)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OD tool size</td>
<td>mm (inch)</td>
<td>20 x 20 (0.8 x 0.8)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. boring bar size</td>
<td>mm (inch)</td>
<td>32 / 20 (1.3 / 0.8)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turret indexing time (1 station swivel)</td>
<td>s</td>
<td>0.11</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. Rotary tool speed</td>
<td>r/min</td>
<td>6000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quill diameter</td>
<td>mm (inch)</td>
<td>-</td>
<td>65 (2.6)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Quill bore taper</td>
<td>MT</td>
<td>-</td>
<td>-</td>
<td>#4</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Quill travel</td>
<td>mm (inch)</td>
<td>-</td>
<td>80 (3.1)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Spindle speed</td>
<td>r/min</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>6000</td>
</tr>
<tr>
<td>Spindle nose</td>
<td>FLAT</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Ø110</td>
</tr>
<tr>
<td>Spindle bearing diameter (Front)</td>
<td>mm (inch)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>70 (2.8)</td>
</tr>
<tr>
<td>Spindle through hole</td>
<td>mm (inch)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>43 (1.7)</td>
</tr>
<tr>
<td>Min. spindle indexing angle (C-axis)</td>
<td>deg</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.001</td>
</tr>
<tr>
<td>Main spindle motor power</td>
<td>kW (Hp)</td>
<td>15 / 11 (20.1 / 14.8)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sub spindle motor power</td>
<td>kW (Hp)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>5.5 / 3.7 (7.4 / 5.0)</td>
</tr>
<tr>
<td>Rotary tool motor power</td>
<td>kW (Hp)</td>
<td>3.7 (5.0)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coolant pump motor power</td>
<td>kW (Hp)</td>
<td>0.4 (0.5)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Motors</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electric power supply (rated capacity)</td>
<td>kVA</td>
<td>27.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>33.7</td>
</tr>
<tr>
<td><strong>Power</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Machine Dimensions</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Height</td>
<td>mm (inch)</td>
<td>1920 (75.6)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Width</td>
<td>mm (inch)</td>
<td>1710 (67.3)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depth</td>
<td>mm (inch)</td>
<td>2425 (95.5)</td>
<td>2455 (96.7)</td>
<td>2850 (112.2)</td>
<td>2880 (113.4)</td>
<td>2850 (112.2)</td>
<td>2880 (113.4)</td>
</tr>
<tr>
<td>Weight</td>
<td>kg (lb)</td>
<td>3400 (7495.6)</td>
<td>3500 (7716.1)</td>
<td>3900 (8597.9)</td>
<td>4000 (8818.4)</td>
<td>3900 (8597.9)</td>
<td>4000 (8818.4)</td>
</tr>
</tbody>
</table>

### Standard features
- Coolant supply equipment
- Foot switch
- Front door interlock
- Full enclosure chip and coolant shield
- Hand tool kit (including small tool for operations)
- Hydraulic chuck and actuating cylinder (tool holders & boring sleeves)
- Hydraulic power unit
- Levelling jack screw and plates
- Lubrication equipment
- Soft jaws
- Standard tooling kit
- Sub spindle (Lynx 220LSYA / LSYC)
- Tail stock (Lynx 220LVA / LYC)
- Work light
- Workpiece cut off confirmation (electrical type) (Lynx 220LSYA / LSYC)

### Optional features
- Additional tool holders & sleeves
- Air blast for chuck jaw cleaning
- Air gun
- Automatic door
- Automatic measuring system (in process touch probe)
- Automatic power off
- Automatic work loading
- Bar feeder interface
- Chip conveyor
- Chip bucket
- Coolant chiller
- Hardened & ground jaws
- Mist collector
- Oil skimmer
- Parts catcher (Lynx 220: ø 65 x L140)
- Pressure switch for chucking pressure check
- Programmable Tail stock (Lynx 220 LVA / LYC)
- Proximity switches for chuck clamp detection
- Proximity switches for tail stock quill position detection*1

*1: This is available as option when tail stock is applied to the machine.

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* The specifications and information above-mentioned may be changed without prior notice.
* For more details, please contact Doosan.
**INTERPOLATION FUNCTIONS**
- 1st. Reference position return
- Manual, G28
- 2nd. reference position return
- G30
- 3rd / 4th reference point return
- Circular interpolation
- G02
- Continuous threading
- Cylindrical interpolation
- G04
- Dell (per sec)
- Helical interpolation
- Linear interpolation
- G01
- Multiple threading
- Nano interpolation
- Polygon machining with two spindle
- Polar coordinate interpolation
- Positioning
- G00
- Reference position return check
- G27
- Skip
- G31
- Thread cutting / Synchronous cutting
- Thread cutting retract
- Torque limit skip
- Variable lead threading

**AXES CONTROL**
- Controlled path 1 path [2 path]
- Controlled axes X, Z, C, Y [C2, B1]
- Simultaneous controlled axes 4 axes
- Angular axis control
- Axis control by PMC
- Backlash compensation 0 – ±9999 pulses
- Chuck and tail stock barrier
- Cs contouring control
- HRV2 control
- Least input command 0.001 / 0.0001 mm/inch
- Machine lock All axis / each axis
- Mirror image
- Overtravel
- Rapid traverse and cutting feed
- Stored pitch error compensation
- Stroke limit check before move
- Torque control
- Unexpected disturbance torque detection function

**FEED FUNCTION**
- Automatic acceleration / deceleration
- Cutting feedrate clamp
- Feederate override (10% unit) 0 - 200 %
- Jog feed override (10% unit) 0 - 2000 mm/min
- Override cancel
- Rapid traverse override FO, 25, 100 %
- Stroke limit check before move

**PROGRAM INPUT**
- Absolute / incremental programming
- Addition of custom macro common variables
- #100 – #199, #500 – #999
- Automatic coordinate system setting
- Canned cycle for drilling / turning
- Coordinate system setting G50
- Coordinate system setting G50
- Custom macro
- Diameter/radius programming (X axis)
- Direct drawing dimension programming
- Direct input of coordinate system shift
- G code system A / B / C
- Interruption type custom macro
- Label skip
- Macro executor
- Manual absolute on and off
- Maximum program dimension ±9 digit
- Multiple repetitive canned cycle G70 - G76
- Multiple repetitive canned cycle II
- Optional block skip 9 piece
- Pattern data input
- Parity check
- Plane selection G17, G18, G19
- Pocket calculator type decimal point programming
- Program file name 32 characters
- Program start / end (M00, M01, M02, M30)
- Programmable data input G10
- Sequence number NR digit
- Sub program call 10 folds nested
- Work coordinate system G52-G59
- Work path graphic display
- Parameter data input
- Part program editing
- Part program storage size 1280m (512kB) / 2560m (1MB)
- Play back

**EDITING OPERATION**
- Number of registered programs 400 [800] ea
- Part program editing
- Part program storage size 1280m (512kB) / 2560m (1MB)
- Program comment display 31 characters
- Run hours / part count display
- Self-diagnosis function
- Soft operator’s panel
- Tool path graphic display

**OTHERS**
- Cycle start and lamp
- Display unit
- Feed hold and lamp
- MDI unit
- NC and servo ready
- PMC system
- USB port in the front of LCD display unit
- Interface function
- Embedded ethernet

**TOOL FUNCTION / TOOL COMPENSATION**
- Tool offset pairs 99 [200] pairs
- Tool offset pairs 5120m (2MB)
- Tool offset pairs 1280m (512kB) [ 2560m (1MB) ]
- Tool offset pairs 400 [800] ea
- Tool offset pairs 99 [200] pairs
- Tool offset pairs 400 [800] ea

**FEED FUNCTION**
- Advanced preview control

**TOOL FUNCTION / TOOL COMPENSATION**
- Tool offset pairs 99 [200] pairs
- Tool offset pairs 1280m (2MB)
- Tool offset pairs 400 [800] ea
- Tool offset pairs 99 [200] pairs
- Tool offset pairs 400 [800] ea

**INTERFACE FUNCTION**
- Ethernet function
- Embedded ethernet

**OPERATION GUIDANCE FUNCTION**
- EZ Guide (Conversational Programming Solution)
- EZ Operation package

**OPTIONAL SPECIFICATIONS**
- Multi step skip

**TOOL PATH GRAPHIC DISPLAY**
- External work number search 15 points
- Memory card input / output
- RS232C interface
- Screen hard copy

**EDITING OPERATION**
- Manual handle feed 2unit
- Manual handle interruption
- Part program storage size 5120m (2MB)

**ROBOT INTERFACE**
- Robot interface with PMC I / O module
- Robot interface with PROFIBUS-DP

**DATA INPUT / OUTPUT**
- Alarm history display
- Multi-language display
- Operating monitor screen
- Program comment display 31 characters
- Run hours / part count display
- Self-diagnosis function
- Soft operator’s panel
- Tool path graphic display

**AUXILIARY / SPINDLE SPEED FUNCTION**
- Actual spindle speed output
- Auxiliary function lock
- Constant surface speed control
- M-code function
- Multi spindle control
- Rigid tapping
- S-code function
- Spindle orientation
- Spindle serial output
- Spindle speed override
- Spindle synchronous control

**SETTING AND DISPLAY**
- Alarm history display
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* : According to the business contract made Doosan, some regions have Tool Load Monitoring system as option.
http://www.doosaninfracore.com/machinetools/

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Doosan Machine Tools
Optimal Solutions for the Future

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