

EZ-TEND™

MODULAR CNC MACHINE TENDING PLATFORM



▶ FOR HIGH MIX/LOW VOLUME PRODUCTION

lyndexnikken.com



WHY AUTOMATION

DRAMATICALLY IMPROVE YOUR MANUFACTURING POTENTIAL

Output, Efficiency, Flexibility

In today's fast paced manufacturing environment there are many factors we are competing for and against. There is a real case for why automate, and why automate now.



COMPETING FOR TALENT



HIGH MIX LOW VOLUME DEMAND



ON TIME DEMAND



RISING COST OF LABOR, BENEFITS & MEDICAL



MODERN SUPPLY CHAIN



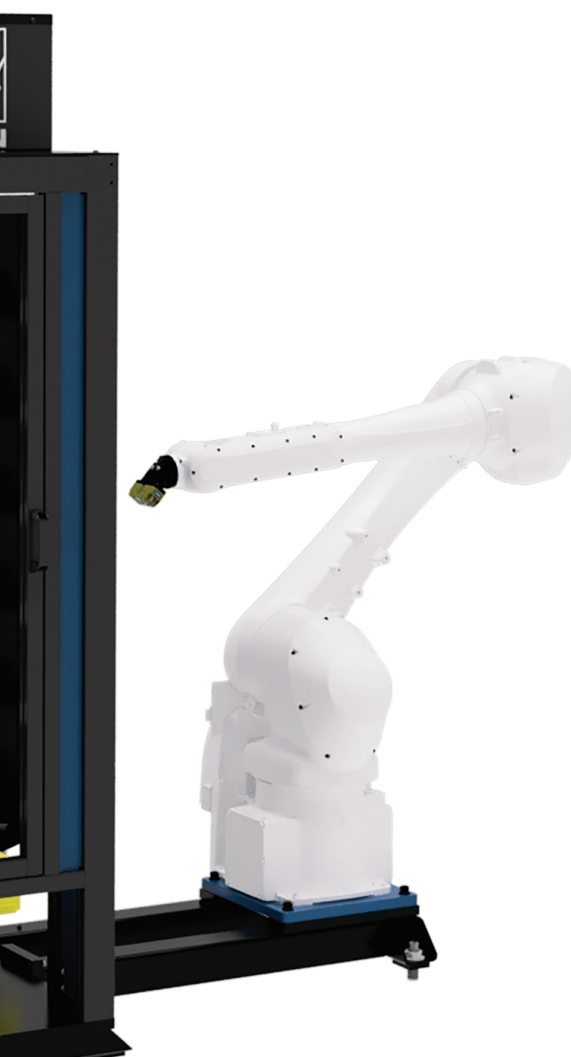
INDUSTRY 4.0/5.0 DEMAND



BENEFITS OF AUTOMATION

AUTOMATION PROVIDES SOLUTIONS TO YOUR MANUFACTURING NEEDS

The amazing technology in today's automation products allows the manufacturer the ability to leverage his resources to achieve tremendous benefits otherwise not achievable by traditional means.



LOWERING
EMPLOYEE COST



LEVERAGE AGAINST
LACK OF SKILLED LABOR



INCREASE SPINDLE TIME



SOLUTION FOR HIGH
MIX LOW VOLUME



QUALITY PARTS
ON TIME



MODERNIZATION FOR
INDUSTRY 4.0/5.0

INTRODUCING THE EZ-TEND™

WHY CHOOSE AN EZ-TEND™ PLATFORM

Introducing an approachable, easy-to-use industrial robotic machine tending system

The EZ-Tend™ is an off-the-shelf automation experience. Great for the first time industrial robotic user entry level or the professional wanting of ease of use and setup of industrial robot tending. Customers will also enjoy a very short delivery lead time.



WITH AUTOMATION ONE OPERATOR CAN RUN MULTIPLE MACHINES



LESS OPERATORS MITIGATES COST INCREASES



SPINDLES RUN SIGNIFICANTLY MORE WITH ASSISTANCE FROM AUTOMATION



HIGH EFFICIENCIES EQUAL IMPROVED CAPACITY UTILIZATIONS



MORE THROUGHPUT WITH THE IMPROVED EFFICIENCIES

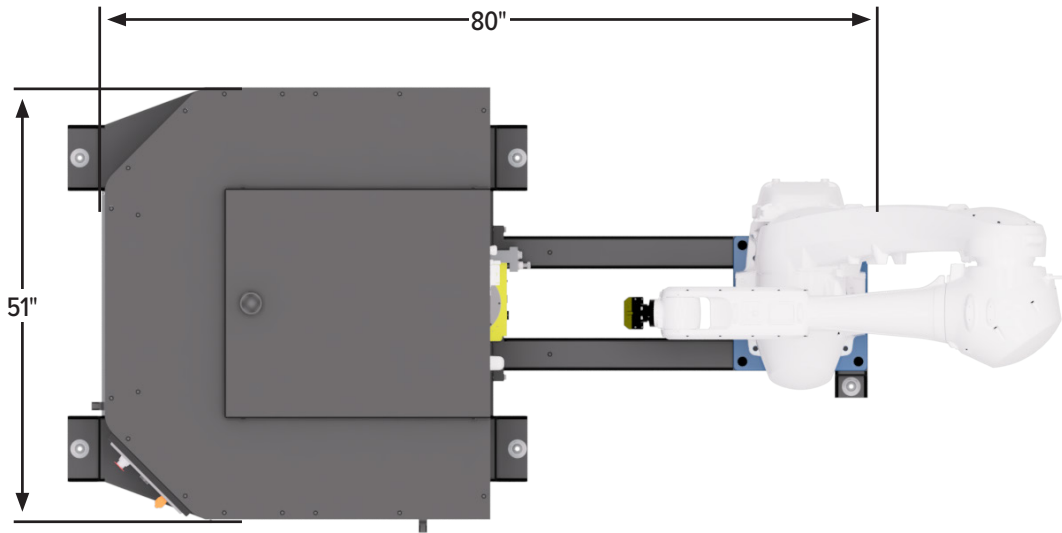


BETTER EFFICIENCIES, MORE THROUGHPUT, LESS COST MITIGATES COMPETITION ISSUES



INTRODUCING THE EZ-TEND™

COMPACT FOOTPRINT



INTRODUCING THE EZ-TEND™

THE EZ-TEND™ CAN PROVIDE THE FOLLOWING RESULTS:



INCREASE
IN SALES



LOWER LABOR
COSTS



HIGHER PROFIT
MARGINS



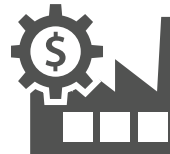
FASTER RESPONSE
TO FLUCTUATIONS
IN DEMAND



LESS PHYSICAL
OPERATOR STRAIN



SMALLER
STOCKS



HIGHER
PRODUCTION
OUTPUT



MORE SPINDLE
HOURS

INTRODUCING THE EZ-TEND™

THE EZ-TEND™ PLATFORM

Designed for Safety and Productivity

The EZ-Tend™ system uses mechanical design elements to provide protection from interaction with mechanical movement to offer the optimum level of operator safety. Optional state-of-the-art area scanners are available.



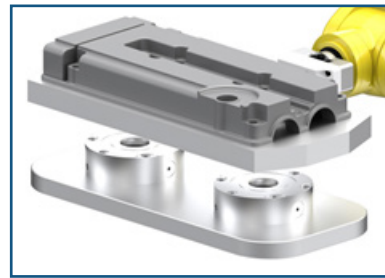
EZ-TEND™ PLATFORM LEVERAGES LEAN PRINCIPLES

The EZ-Tend™ platform takes the application of lean manufacturing to the next level by using robots to tend the CNC machine. Its flexibility and power allow it to service milling and turning centers.

FROM 'LEAN MFG' TO 'LEAN TENDING'

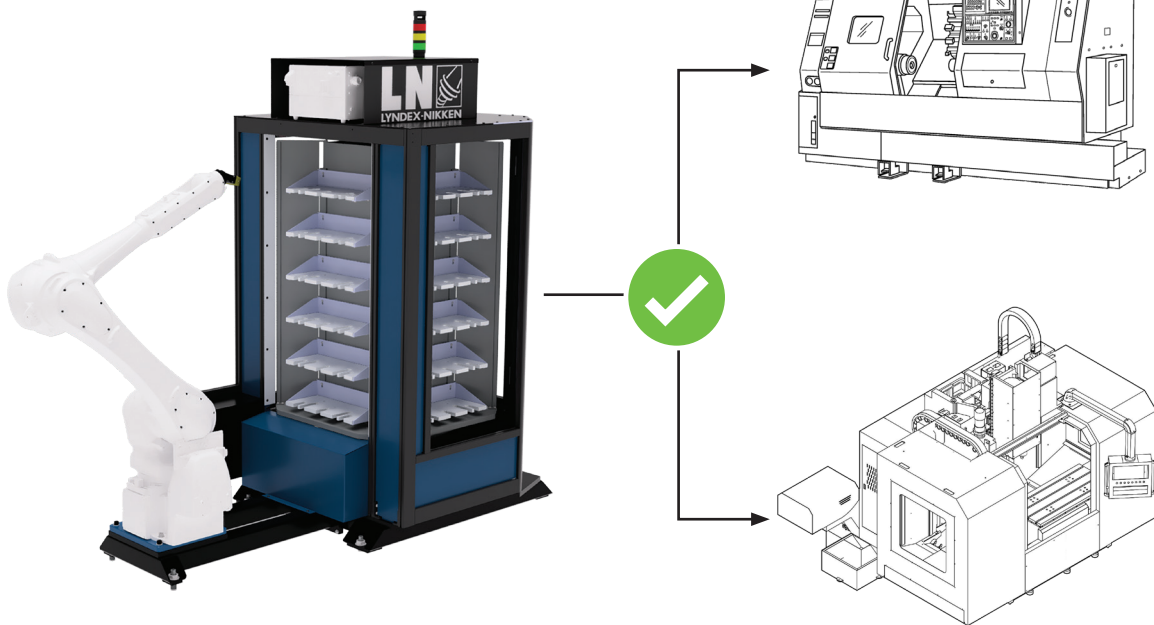


LEAN MANUFACTURING



EZ-TEND™-LEAN TENDING

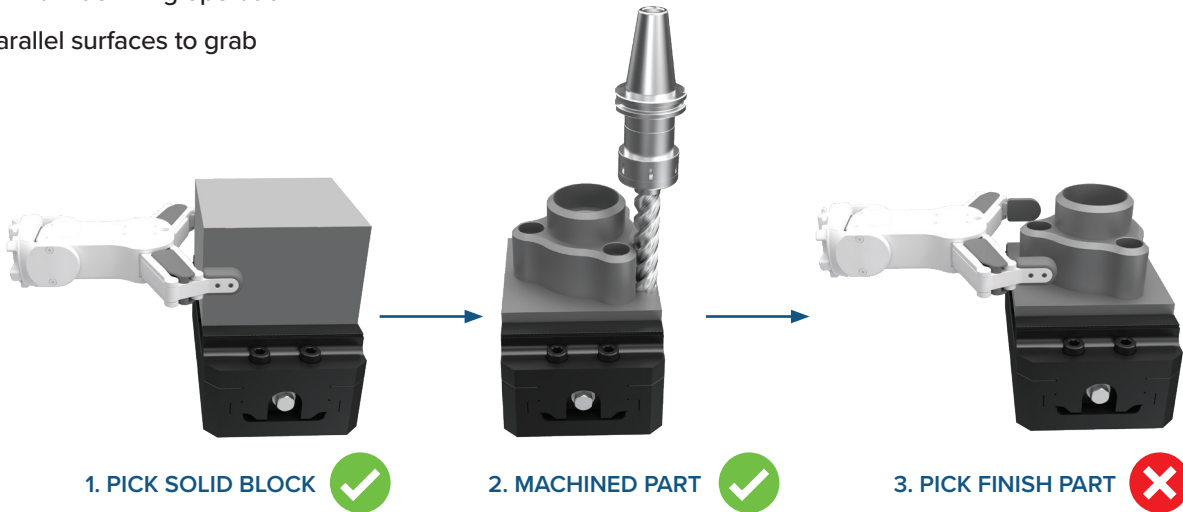
MILL TENDING WITH OPTION FOR TURNING CENTER



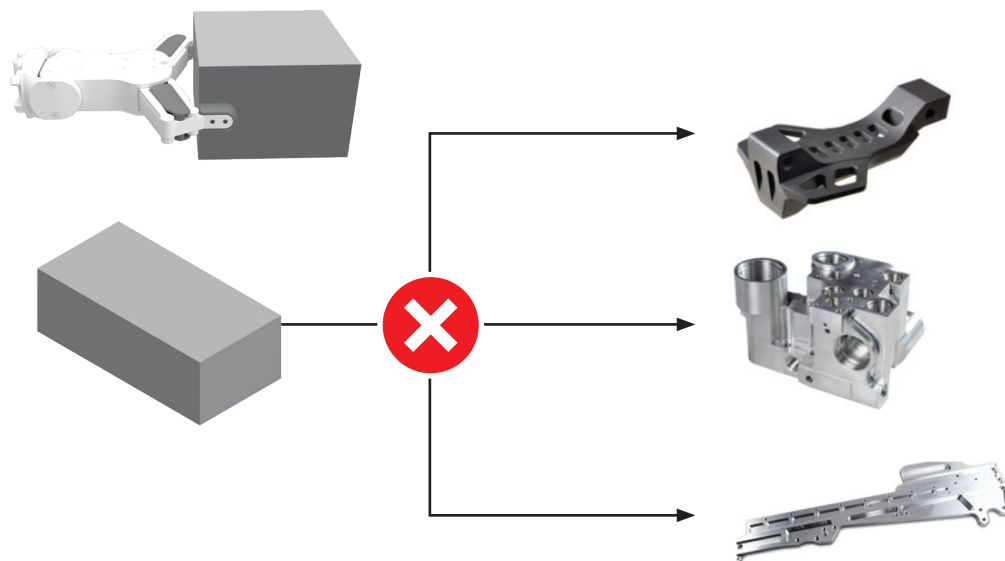
HOW EZ-TEND™ SEPARATES ITSELF

Grabbing workpieces with 2- and 3-jaw grippers, the challenges:

- Grab square/rectangle block
- Perform a machining operation
- No parallel surfaces to grab



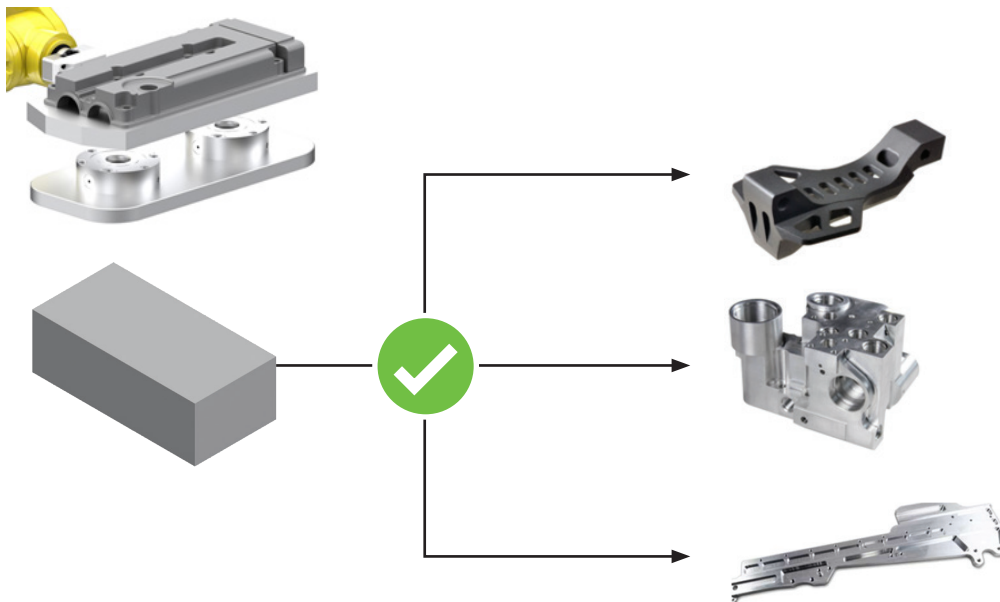
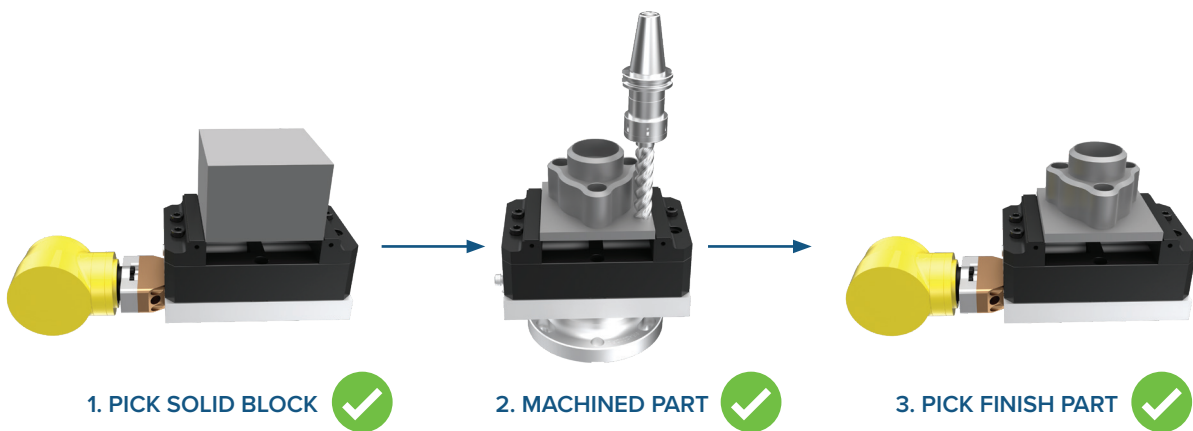
Your automation journey starts to get complex, you now need a robot that can change its end of arm tool (EOAT) to accommodate the irregular shape. This is expensive and, in many cases, not possible.



EZ-Tend™ doesn't deal with the changes in part geometry or the workholding issues. It utilizes a proven lean manufacturing technique of grabbing a single point on a pallet and moving the pallet and its contents to its destination...(PLACE).

This approach allows the user to:

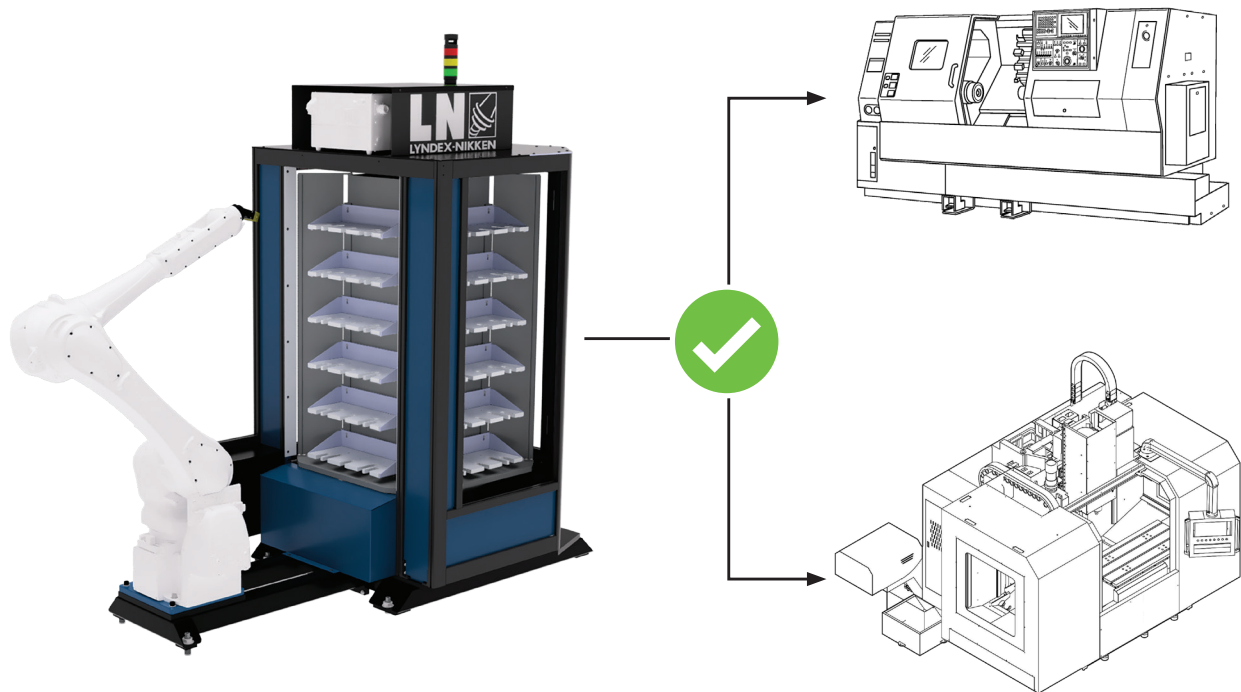
- Machine any shape
- Create part density
- Freely access sides of part as needed



EZ-TEND™ MILL-TURN OPTIONS

TENDING BOTH MILL AND TURNING CENTER

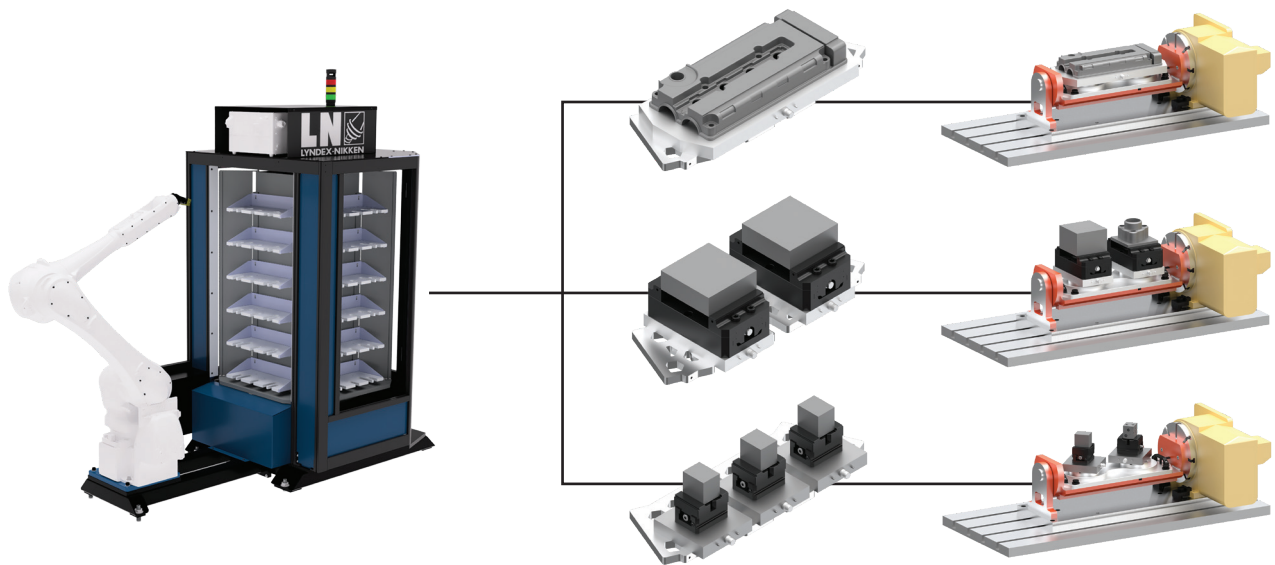
*Requires additional hardware



EZ-TEND™ IS TODAY'S INVESTMENT WITH TOMORROW'S ADAPTABILITY

Lyndex-Nikken EZ-Tend™ systems are built for tending your current machines or new machine installs. The EZ-Tend™ can be deployed in front of a milling or turning center. Should your work requirements change, the EZ-Tend™ system can be reconfigured and redeployed as needed.

MILLING CENTER: PICK AND PLACE POSITIONS

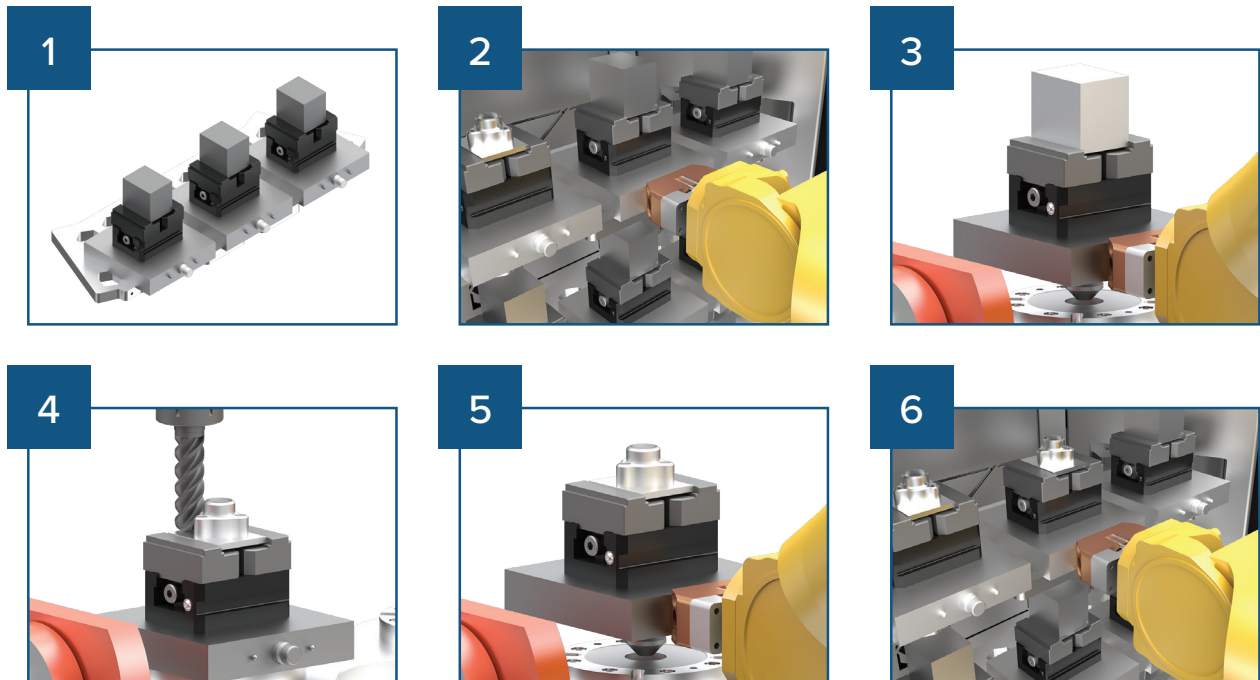


The power of the EZ-Tend™ lies in the preconfigured pick and place positions. No robot programming required.

- Three options to pick from
- Multiple pallet sizes to accommodate wide range of work pieces
- Palletize allow for high-low mix quick change over
- Single point drop off for use on 5th axis machine or trunnion
- Double point drop off for lean process
- +45/-45 drop off for 5 planes machining without the need of a 5-axis equipment

EZ-TEND™ PROCESS FLOW

MILL TENDING CYCLE



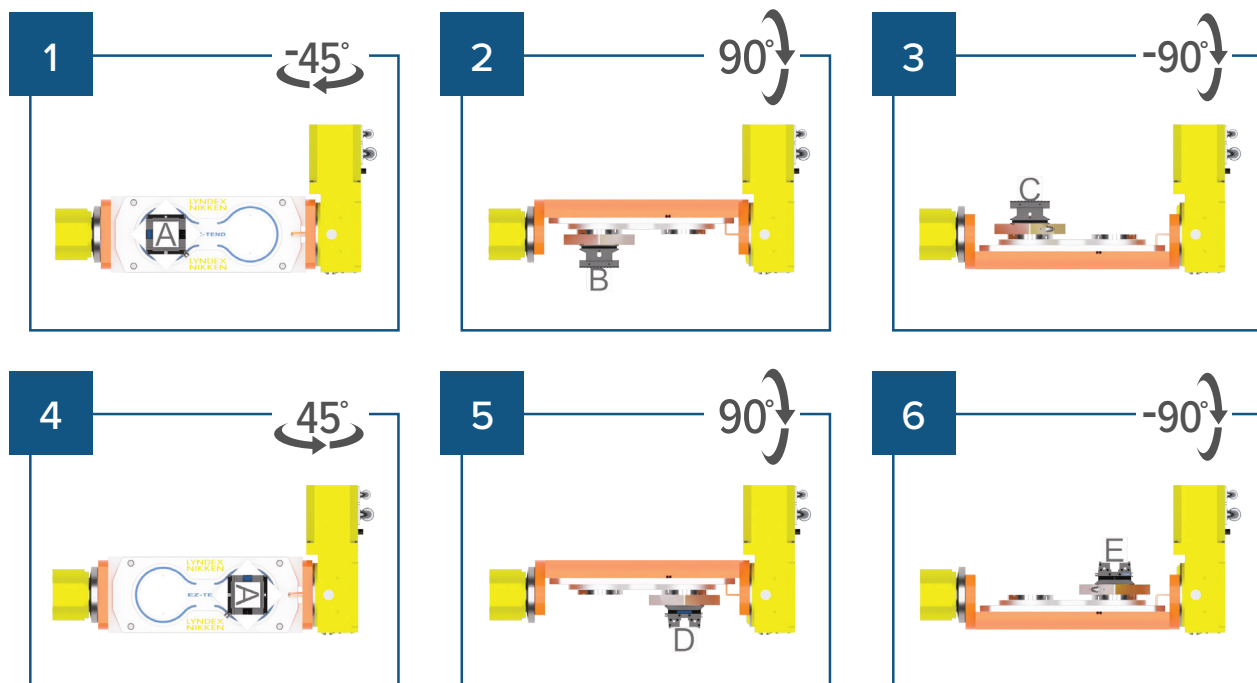
ROBOT PICK AND PLACE PROCESS

- 1** Build/load pallets
- 2** Pick pallet from shelf
- 3** Place pallet in receiver system
- 4** Machine part
- 5** Remove part from receiver
- 6** Return it to the EZ-Tend™ tower

EZ-TEND™ 5-SIDED MACHINING

5-SIDED TENDING CYCLE

*Requires trunnion



ROBOT PICK AND PLACE PROCESS

- 1** Place at -45° left-hand position. Machine surface A and perimeter
- 2** Rotate A-axis to $+90^\circ$. Machine surface B
- 3** Rotate A-axis to -90° . Machine surface C
- 4** Move pallet to $+45^\circ$ right-hand position
- 5** Rotate A-axis to $+90^\circ$. Machine surface D
- 6** Rotate A-axis to -90° . Machine surface E



USER-FRIENDLY HMI

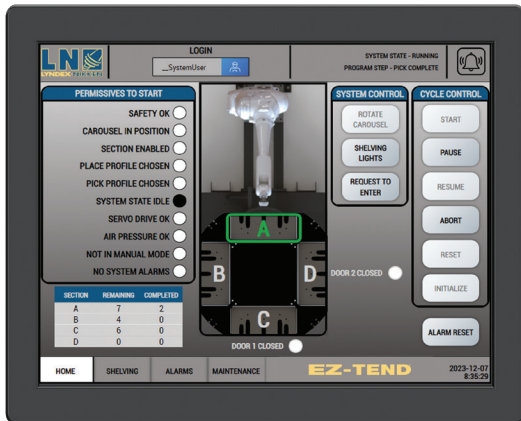


HOW IT WORKS

The EZ-Tend™ system's HMI (Human Machine Interface) is designed for ease of use. Its intent is to allow a non-robot programmer to create a pick and place routine using a word-based button menu. This simplicity is the EZ-Tend™ system's power.

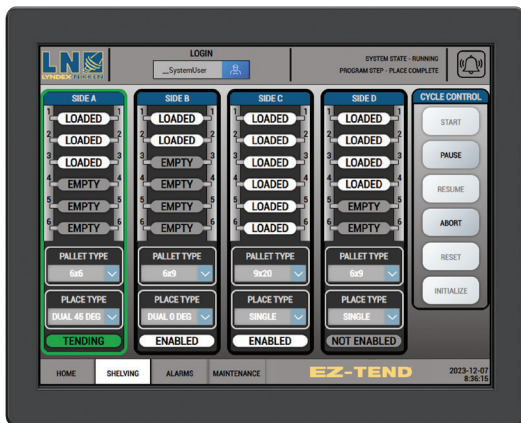


USER-FRIENDLY HMI

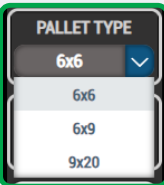


EZ-TEND™ HOME SCREEN

- Simplified user interface
- Word-based buttons for menus
- Main screen gives access to all functions



EZ-TEND™ TOWER PICK AND PLACE SELECTION SCREEN



PALLET SIZE:

- 6x6
- 6x9
- 9x20

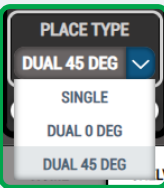
PLACE OPTIONS:

- Neutral Placement
- Dual Neutral Placement
- +/-45 Single Placement*
- Single Position 5-Axis Placement

PLACE TYPE:

- +/-45 Single

*Rotary & Trunnion Required



EZ-TEND™ TOWER FACE AND SHELF SELECTION SCREEN

SELECT SIDE:

- A, B, C, D

SELECT SHELVES:

- 1-6
- Enable side

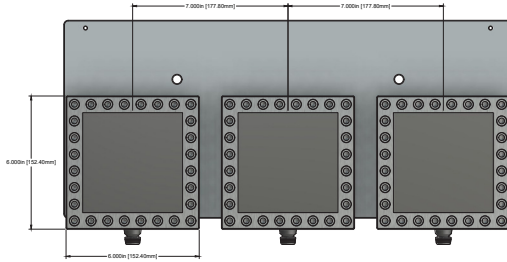
PRESS START:



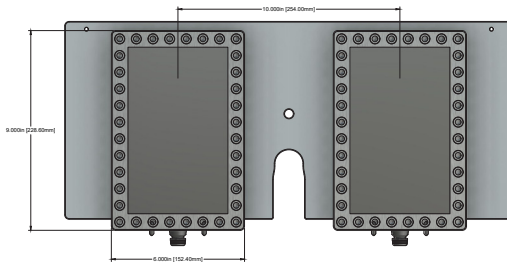
TECHNICAL SPECS/REQUIREMENTS

The right setup for the job

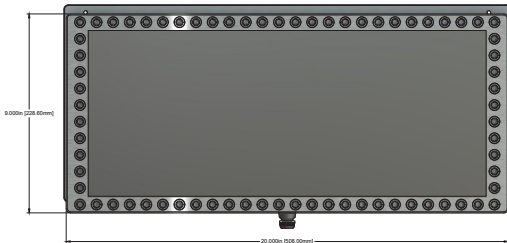
The EZ-Tend™ can handle an array of pallet configurations



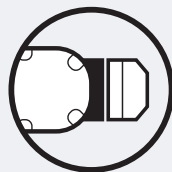
- Small to medium parts
- Workpieces 5.250 x 6 x 6
- Workholding direct 6 x 6 x 6
- Pallet payload 38#'s max
- Dual positioned



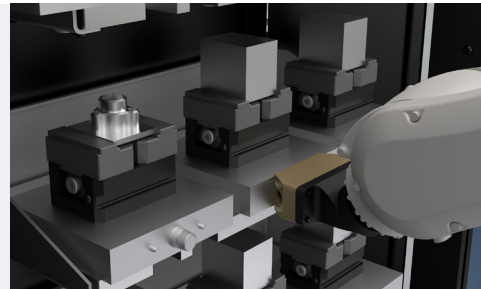
- Small to medium parts
- Workpieces 6 x 9
- Workholding direct 6 x 6 x 9
- Pallet payload 38#'s max
- Dual positioned



- Large parts
- Workpieces 5.250 x 9 x 20
- Pallet payload 33#'s
- Single position



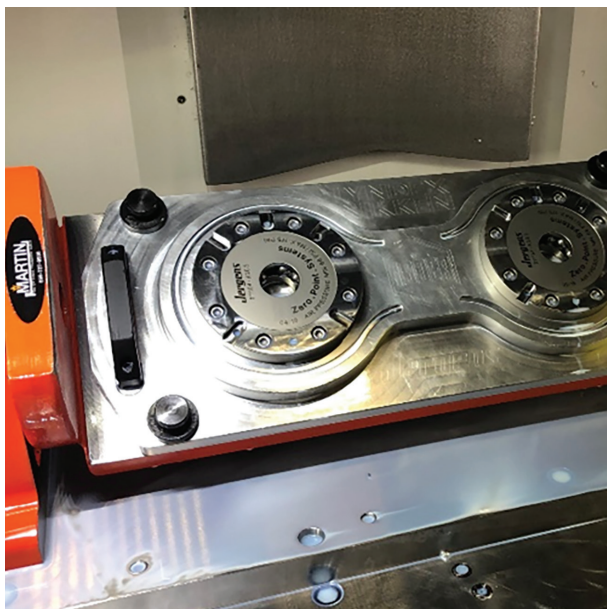
End of Arm Tooling (EOAT) grabbing an empty pallet >



INSTALLATION REQUIREMENTS

Machine essentials to know

Decisions must be made in order to best use the capabilities of the EZ-Tend™



EZ-TEND™

- Forklift (5000 lbs. capacity)
- Safety Cage (per machine dimension)
- Power (200–240V, 50–60 Hz)
- Air (100 psi)

CNC MACHINE

- Autodoor (OEM or aftermarket)
- Fixtures:
 - Zero Point Receiver (2 units)
 - 4th Axis Trunnion (optional)
 - Fixture Build Plan
- Robot Interface:
 - Ethernet Interface-Robot Options
 - Discrete I/O's (input/output)

OTHER AUTOMATION SOLUTIONS

See other EZ-Automation solutions on our website



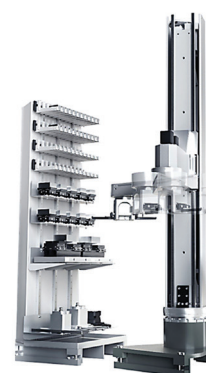
EZ-AUTOCART

Easily Automate CNC Machine Tending



EZ-COB

CNC Machine Loading Automation Solution



EZ-BOT

Automatic Work Changer for 5-Axis CNC Machine

A photograph of the Lyndex-Nikken building facade, featuring the company name and logo in large letters. The image is overlaid with a blue tint. The logo consists of the word "LYNDEX" above "NIKKEN" and a stylized graphic of a drill bit to the right.

LYNDEX
NIKKEN

ABOUT US

At Lyndex-Nikken, we have made it our mission to provide the two most important points to keep you ahead of the competition: advanced technology and the innovation to keep it moving forward. In addition to manufacturing the best machine tool accessories available on the market, our team of highly experienced technicians and product specialists offers unmatched customer service and engineering support to our customers worldwide.



1468 Armour Boulevard | Mundelein, IL 60060
Phone: 847.367.4800 | Fax: 847.367.4815 | sales@lyndexnikken.com
lyndexnikken.com

