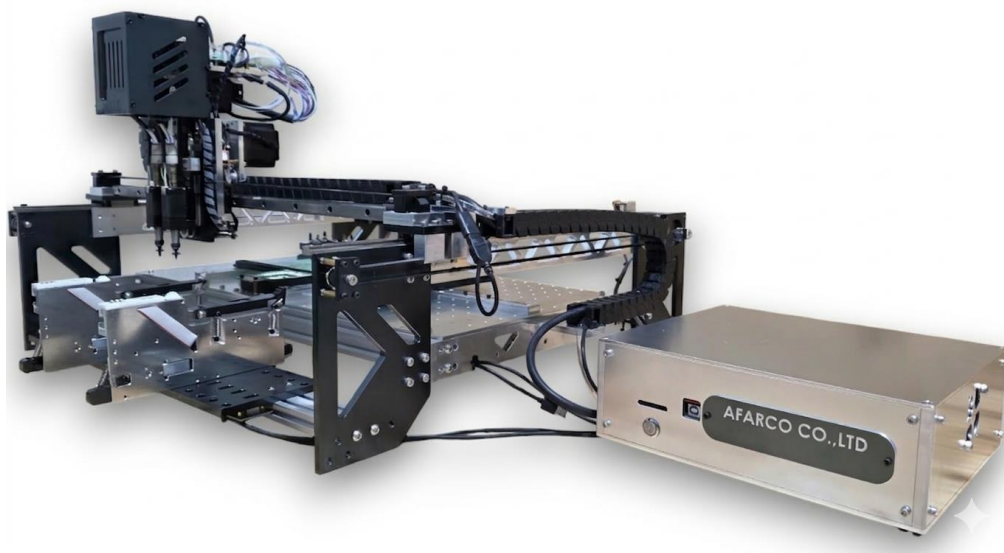


# AFARCO PNP V3.2

THE NEW STANDARD OF DESKTOP SMT  
ASSEMBLY



Made in Viet Nam

## THE AFARCO PHILOSOPHY

Engineering Excellence for Small-Batch Production

The AFARCO PnP V3.2 is not just a machine; it is a precision instrument designed to bridge the gap between prototyping and mass production.

### *Why AFARCO?*

- **Solid 6061 Aluminum Construction:** While others use 3D-printed parts or thin sheet metal, our chassis is 100% precision CNC-machined. This ensures zero flex and consistent accuracy over years of operation.
- **Built for Precision:** Specifically engineered to handle the most demanding components, from microscopic 0201 resistors to complex 0.5mm pitch BGAs.
- **Open Ecosystem:** Powered by OpenPnP, giving you full control over your production workflow without proprietary software lockdowns.
- **Expanded Capacity:** Now featuring 40 feeder slots, allowing for high-mix assembly without retooling.
- **Dual-Nozzle Efficiency:** Independent Z-axis control for dual pick-and-place heads, significantly increasing CPH (Components Per Hour).
- **Advanced Vision:** High-resolution Upward and Downward cameras for real-time component alignment and footprint inspection.
- **Extended PCB Support:** A redesigned workspace that accommodates longer PCBs, ideal for LED lighting and industrial backplanes.
- **Reliable Motion Control:** Industrial-grade rails and motors ensure repeatable accuracy of  $\pm 0.05\text{mm}$ .

## TECHNICAL SPECIFICATIONS

	<b>AFARCO PNP V3.2</b>
Machine Style	2 Heads
Placement Rate	Vision ON: 1600 CPH   Vision OFF: 2200 CPH
Maximum PCB Size	<b>280 x 550 (mm)</b>
Nozzle Change Capacity	6 Nozzles ( 3 Left & 3 Right )
Nozzle Type	Samsung CP45
Feeder Type	<b>40 Slots AF Feeder (8mm, 12mm, 16mm)</b>
	<b>( 20 Front &amp; 20 Rear )</b>
	Strips Feeder
	Tray Feeder
Component Compatibility	<b>Minimum part size: 0201   Lead Pitch: 0.4mm</b>
	<b>Largest Size: 28*28(mm)   Part Hight: 20(mm)</b>
Rotation Nozzle	-+360
X/Y/Z Axis Travel	X 600mm   Y 480mm   Z 38mm
Vaccum Pump	-85Kpa   24VDC   24W
Software	OpenPnP Original
Camera Vision	1 HD Camera TOP, 1 HD Camera BOT
Power	350W 85VAC-250VAC 50/60Hz
External Dimensions (mm)	Machine Size: 750(L)x650(W)x450(H)

## Detailed information about the motion control panel

- Using MCU LPC1769 High-performance microcontroller. Maximum operating frequency of 120MHz, with up to 512KB Flash and 64KB SRAM memory.
- Operates on the **Smoothie platform**.
- The TB6600 high-performance stepper motor controller enables high-speed axis movement.
- The control box is designed to be detachable, making replacement and maintenance easy.
- The Meanwell LSR350 AC-DC power converter (24VDC-14.6A) offers an optional 110-240VAC input voltage, compliant with US, EU, UK, AU, and other standards.
- This vacuum pump has a power of 24W, reaching a pressure of -85Kpa, and operates powerfully and quietly.
- Built on the foundation of native OpenPnP, it always receives the latest updates from the OpenPnP community.

**Note: Computer requirements for working with OpenPnP (using the configuration we have set up):**

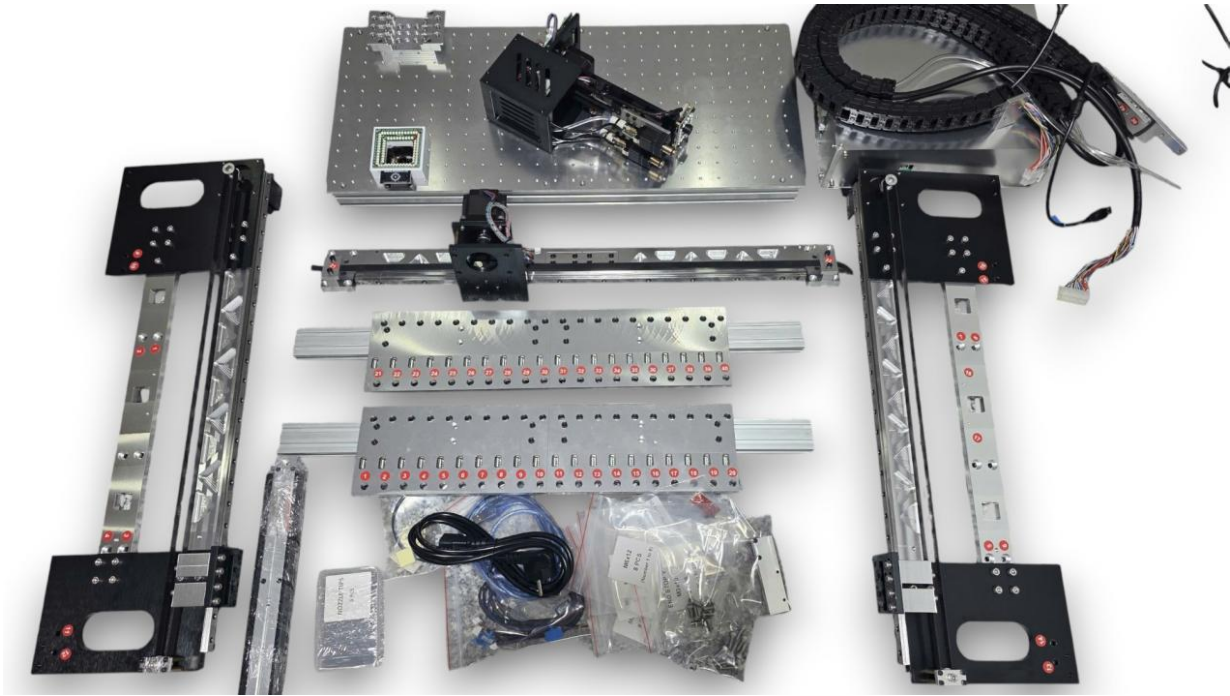
1. One computer running Windows 64-bit or Ubuntu 20.04 LTS with **OpenPnP 2.6** installed.
2. The computer must have at least 3 USB ports (not via an expansion hub). It must be able to handle 2 x 1080p USB webcam feeds and 1 x USB serial port simultaneously.

## AF Feeder V2: Fully automatic feeder for AFARCO PnP V3.2

- Simple operation with OpenPnP via RS485 communication
- Save time during use thanks to quick assembly and disassembly structure
- Machined by CNC aluminum alloy, with absolute precision
- Supports smallest size 0201, works well with paper and plastic component rolls thanks to the compression mechanism
- Intelligent control circuit with optical sensor, precise position control algorithm

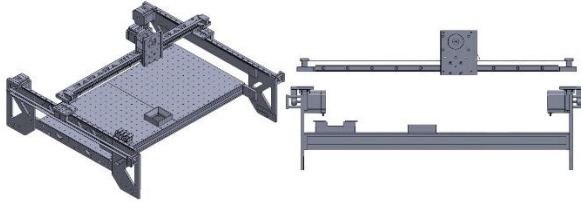


## The parts will be disassembled for shipping

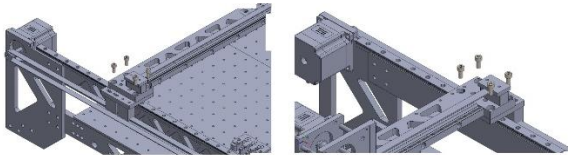


# Assembly Tutorial

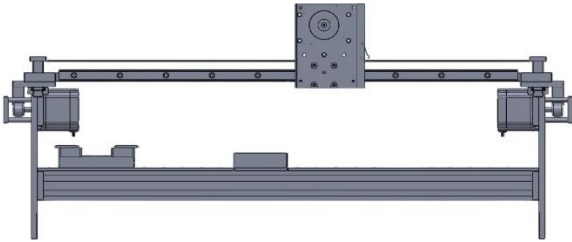
## ASSEMBLY FRAME - X



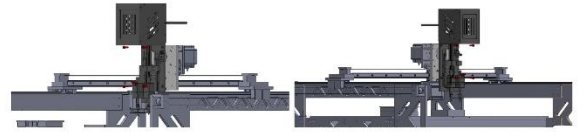
SCREW M5X15



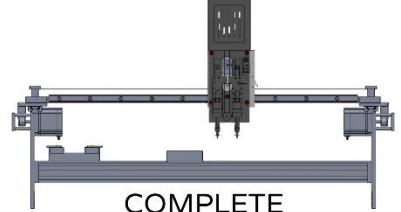
COMPLETE



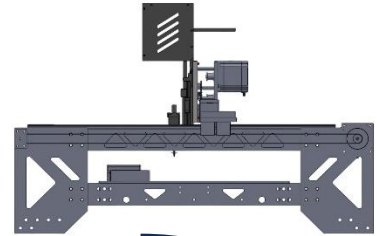
## ASSEMBLY FRAME - Z



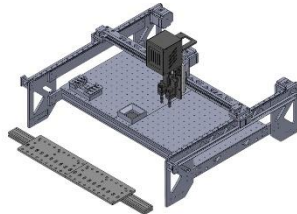
SCREW M4X10



COMPLETE



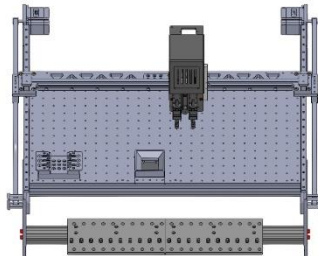
## ASSEMBLY FRAME - AF BASE



SCREW M6X20



COMPLETE



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## CONTACT & ORDERS

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