iNTEL MAKiNA
INDUSTRY AND TRADING CORP.

VEGA 5T

5-Tool CNC Processing Machine for PVC and Aluminum

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Description

A CNC-controlled production system developed for high-precision processing of aluminum and uPvc profiles. Thanks to its 5-axis servo-controlled motion structure, all necessary operations can be performed on all surfaces of the profile in a single loading. Milling operations, internal and external water drainage channel opening, hinge pockets, lock and handle holes, as well as angled and straight cutting operations are automatically applied according to the program. Processes are performed sequentially according to the defined operation sequence, and transition times between operations are minimized.

High-speed spindle motors positioned in the servo-controlled milling unit produce precise and repeatable results according to defined processing parameters. All movements are managed by the CNC control system, thus ensuring dimensional accuracy and process standardization. The machine consists of three main sections: input conveyor, processing unit, and output conveyor.

Highlights

- ✓ Servo-controlled motion feed
- ✓ 0.1° processing accuracy
- ✓ 5 spindle motors
- ✓ 15.6″ high-performance industrial PC

- ✓ Centralized lubrication system
- ✓ Remote connection for technical support
- ✓ USB input
- ✓ Manual horizontal and vertical vise systems
- ✓ Integrated air pressure sensor
- ✓ Low energy consumption LED lighting inside the cabin
- ✓ Data transferable over the Internet

Optional Features

- \+ Barcode Reader

Machine Components



Processing Unit

The processing unit where milling operations are performed contains 5 air-cooled, high-frequency motors. Special cutting tools designed for water drainage, milling, lock hole drilling and opening operations on aluminum profiles enable fast processing. Servo motors provide the ability to perform precise operations on three surfaces of the profile. The powerful vise system secures the profile during processing, maintaining processing quality while extending the service life of cutting tools. In case of power failure, the braking system in the servo motor prevents the unit from sagging.



Vise System

A movable vise system is implemented to reduce vibration of aluminum profiles during processing and to ensure support from a shorter distance and prevent movement. Through vertical and horizontal pressures, it can accommodate most profiles.



Conveyor System

A conveyor system is used on the profile inlet and outlet sides for linear transmission of long-sized aluminum profiles during processing and to the machine.



Computer Control

Milling operations are managed through a 15.6'' touchscreen industrial PC with Intel processor. The user-friendly interface with multi-language support provides easy operation. By entering the processing parameters of the profiles, milling operation lists can be prepared, and thus all operations can be performed completely automatically without operator intervention. Additionally, parameter settings and operation management can be performed remotely; this feature also allows for fast and efficient technical support. Data transfer can be performed via USB input. A 315-degree rotatable screen mounting system provides comfortable operation.

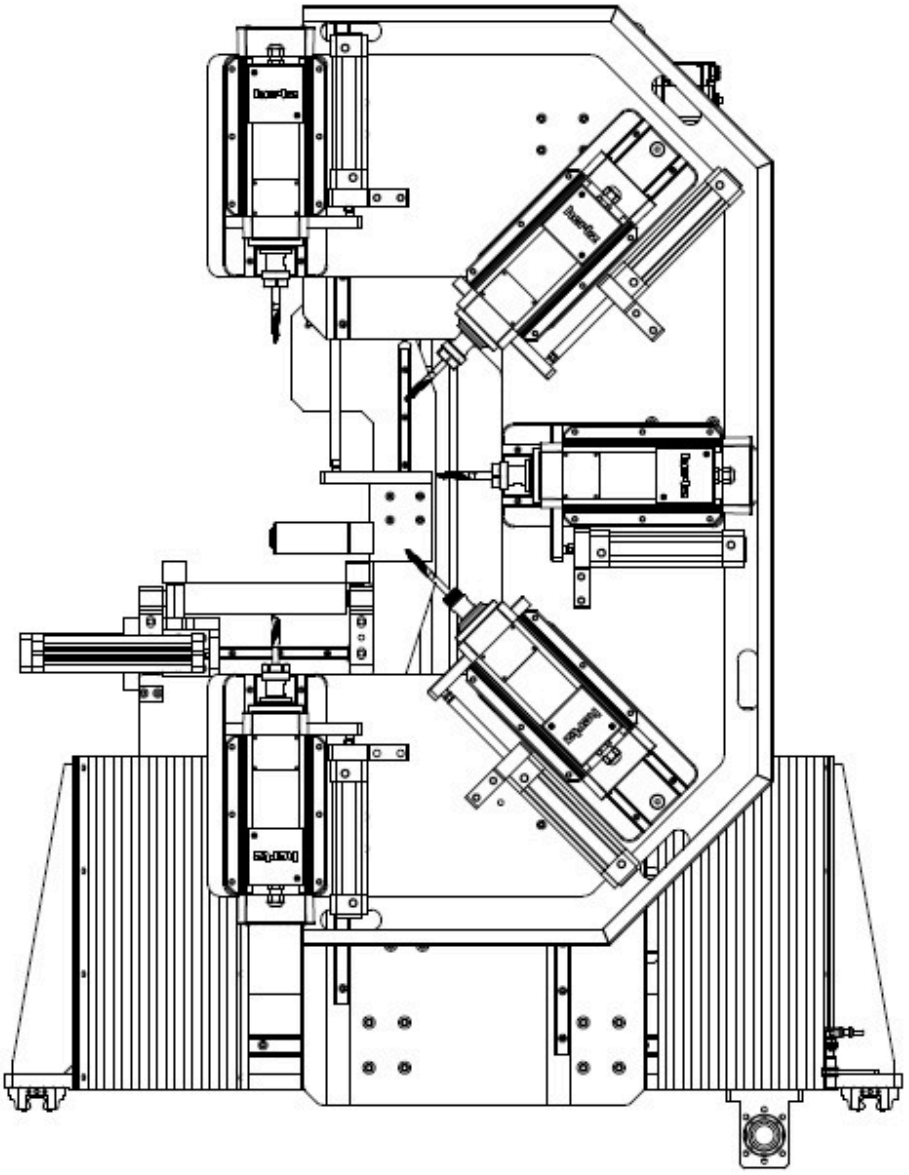


Safety

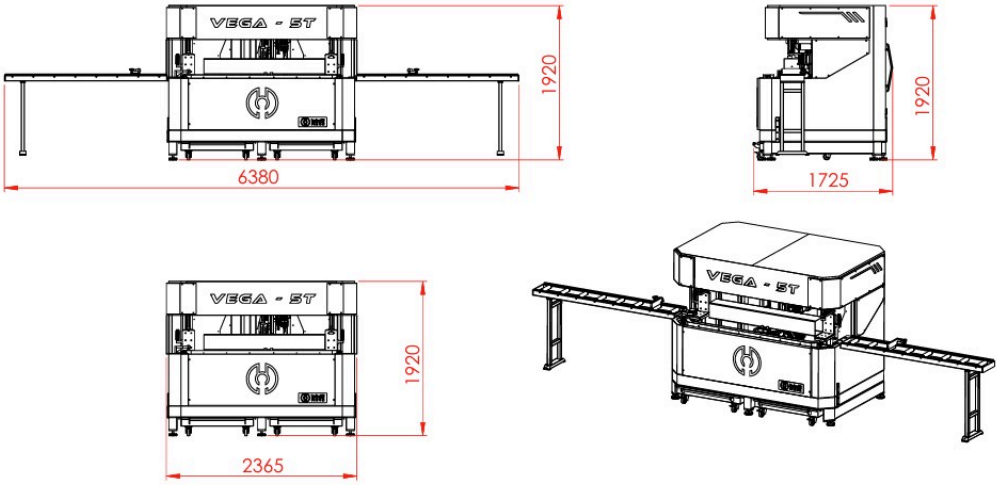
All milling and cutting operations are performed inside a closed cabin. When the cabin door opens, the machine stops operation. The integrated air pressure sensor stops operations and warns the user when adequate pressure is not applied. The profile recognition system provides a warning when an incorrect profile is placed, preventing faulty operations.

Technical Drawings

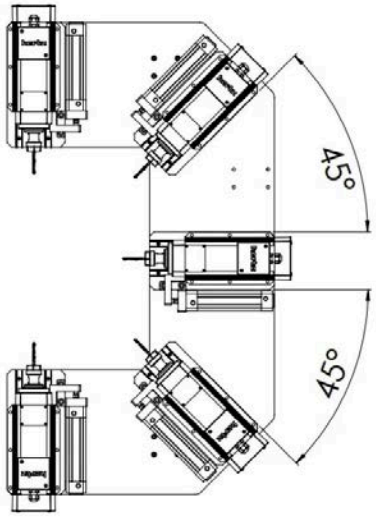
Layout Plan 1

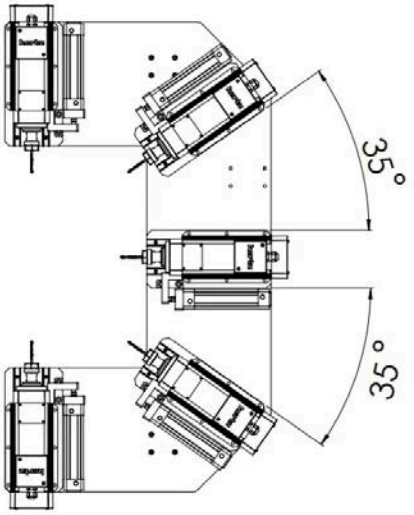


Milling Unit



Views





Technical Specifications

Machine Dimensions

Machine Height	**1920 mm**
Machine Length	**6380 mm**
Machine Width	**1725 mm**
Machine Weight	**1320 Kg**

Packaging Dimensions

Machine Height	**1950 mm**
Machine Length	**2380 mm**
Machine Width	**1750 mm**
Machine Weight	**1340 Kg**

Milling Unit

Maximum Processable Profile Height	**200 mm**
Minimum Processable Profile Height	**10 mm**
Maximum Processable Profile Width	**200 mm**
Minimum Processable Profile Width	**10 mm**
Maximum Processable Profile Length	**----------**
Minimum Processable Profile Length	**----------**

X-Axis Braked Motor	✓
Milling Cutters	**5**
Processing Accuracy	**+/- 0.2 mm**

Control

Industrial PC	✓
Operating System Windows	**15.6''**
Touchscreen	✓
Remote Connection	✓
USB File Transfer	✓
Processing List Creation	✓
'mdb' and 'csv' format support	✓

Technical Specifications

Air Pressure	**6-8 Bar**
Total Air Consumption	**20 l/min**
Voltage	**400 V**
Total Power	**15 kW**

Processing Unit Servo Motors

Power	**0.75 kW**
Rotational Speed	**3000 rpm**
Voltage	**VAC 110**
Torque	**2.4 Nm**
Quantity (Without Brake)	**2**
Quantity (With Brake)	**1**

Milling Motor

Quantity	**5**
Power	**2.2 kW**
Rotational Speed	**12000 rpm**
Protection Class	**IP 65**
Voltage	**220 V**
Cooling	✓

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