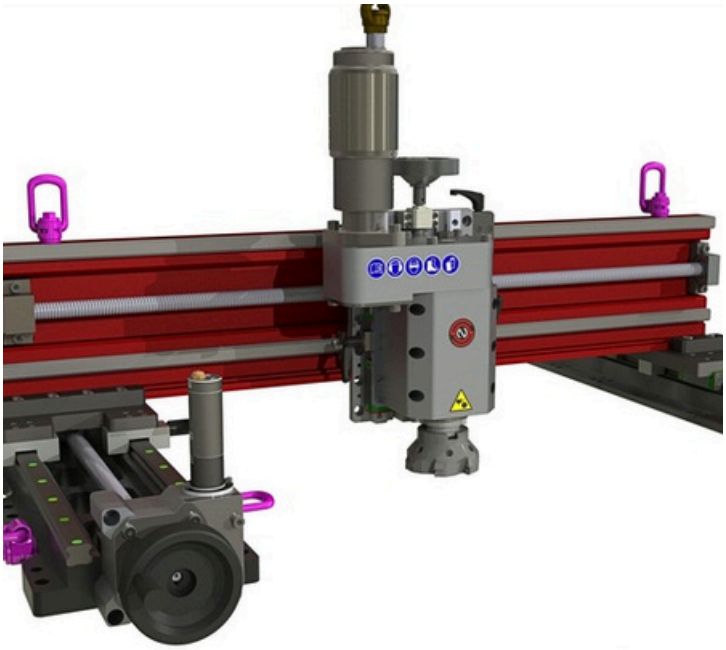
normaco
Portable Machining Tools

3-Axis / Gantry Portable Milling Machine PMH3

- **Rigid modular construction**
- **Portable on-site machining capability**
- **3-axis or gantry configuration**
- **Multiple power options**
- **Precision, control and repeatability**



The Normaco PMH3 Portable Milling Machine is a compact and robust solution for precision on-site milling operations. Designed for reliability in demanding industrial environments, the PMH3 allows accurate machining directly at the worksite, eliminating the need to dismantle and transport large components to a workshop. This significantly reduces downtime and overall maintenance costs.

PMH3 is used for machining and refurbishing large industrial components such as pump and motor bases, compressor foundations, steel structures, and heavy equipment mounting surfaces. It is applied in industries including oil and gas, power generation, shipbuilding, mining, and heavy fabrication.
Typical operations include surface milling, machining of mounting pads, correction of misaligned foundations, and restoration of worn sealing or contact surfaces.

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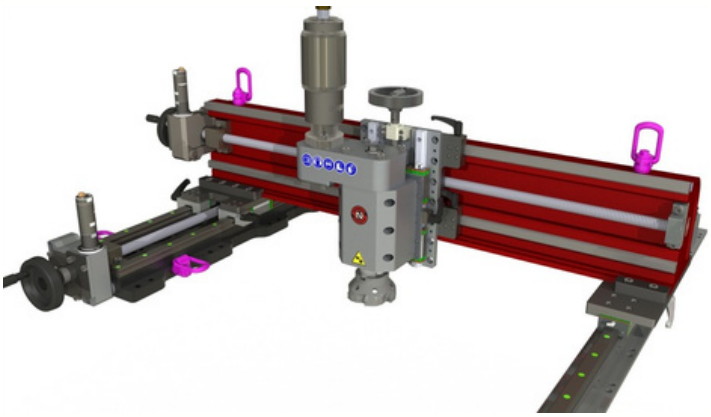

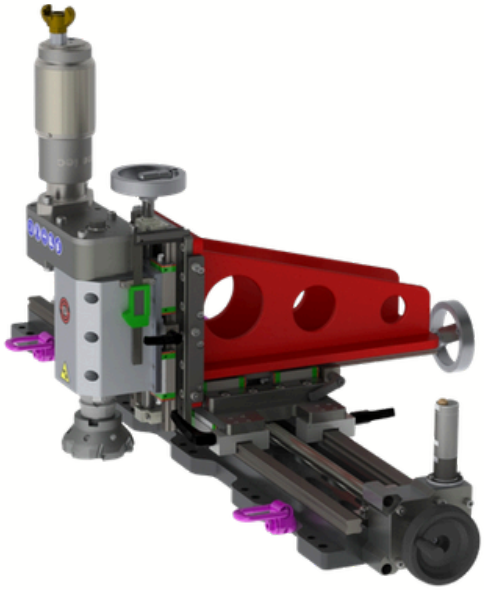

Gantry Configuration

For larger machining areas or applications requiring increased rigidity, the PMH3 can be configured as a gantry-type portable milling machine. In this configuration, the machine uses a cross beam supported by two parallel X-axis rails, forming a rigid portal structure that significantly expands the available machining area.

The gantry design allows the distance between the two X-axis rails to be freely adjusted, enabling the machine to accommodate a wide range of workpiece sizes and shapes. This flexibility makes the PMH3 particularly suitable for machining large structural surfaces such as compressor bases, turbine foundations, steel fabrication assemblies, and heavy equipment frames.

The portal construction distributes cutting forces evenly across the machine structure, improving rigidity and ensuring stable machining performance even when milling wide surfaces. At the same time, the modular system allows the machine to be transported and assembled on site with relative ease.

In gantry configuration, the PMH3 combines the advantages of a large-capacity milling system with the mobility required for field machining, making it an efficient solution for large-scale surface machining tasks where conventional workshop equipment cannot be used.

3-Axis Configuration

In its basic configuration, the PMH3 operates as a compact and versatile 3-axis portable milling machine. The design uses the Normaco L-Frame to provide the Y-axis movement, creating a rigid yet lightweight structure that is ideal for typical on-site machining tasks where moderate Y-axis travel is sufficient.

This configuration is well suited for machining pump and motor mounting pads, gearbox bases, structural plates, and similar surfaces that require accurate alignment and flatness, but are compact in size. The rigid L-frame provides stable support for the milling head. A key advantage of the design is the ability to quickly change the Y-axis assembly to the opposite side of the X-axis. This allows the operator to machine both sides of a component, such as motor or pump feet, in a single setup without repositioning the machine.

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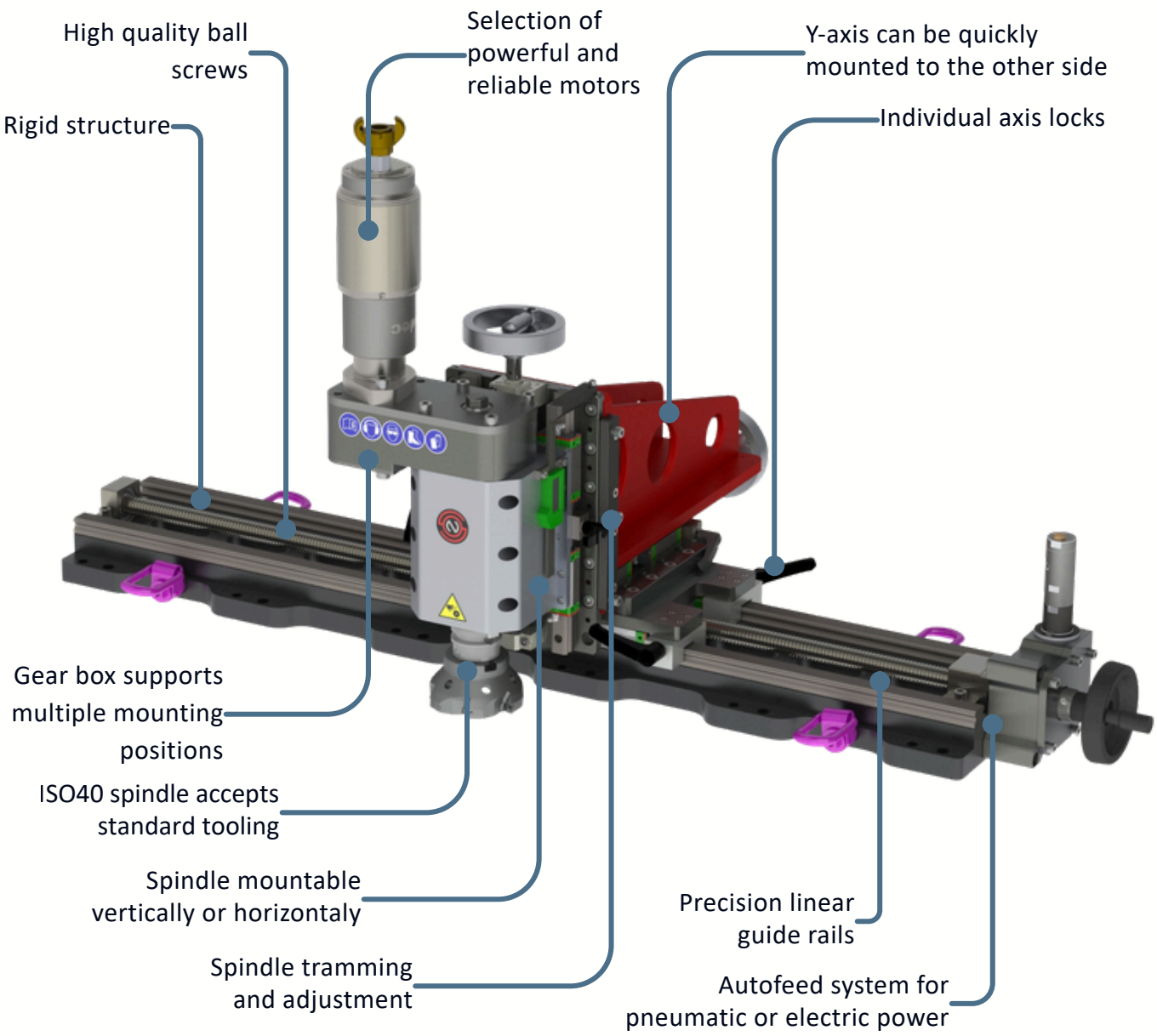

The PMH3 is built around a rigid modular structure that ensures stable machining and repeatable accuracy even in challenging working positions. The machine can be configured for a wide range of travel lengths and mounting arrangements, allowing it to adapt to different component sizes and machining requirements.
To suit different working environments, the PMH3 can be powered by pneumatic, electric, or hydraulic drive systems.

Pneumatic drive enables spark-free operation for hazardous or explosive environments, while electric and hydraulic power options provide high torque and efficient cutting performance for demanding milling applications. Both the X and Y axes can be operated manually or with powered feed, allowing the operator to balance productivity and control depending on the task.

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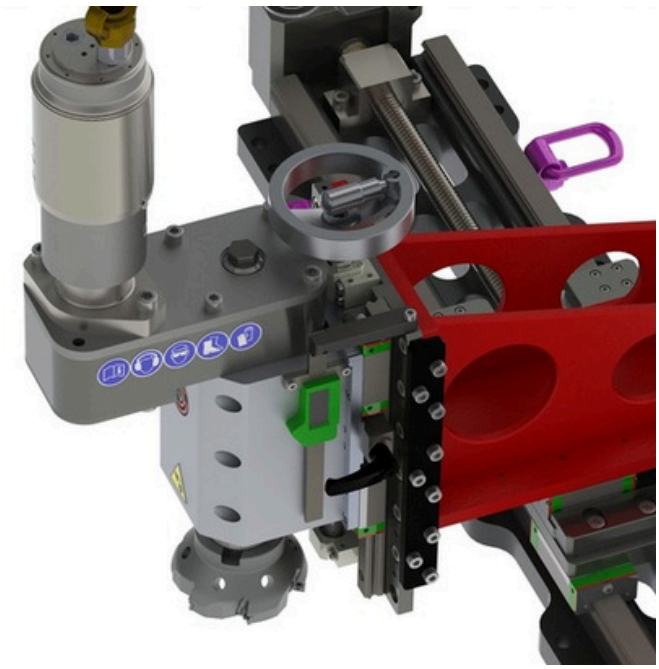

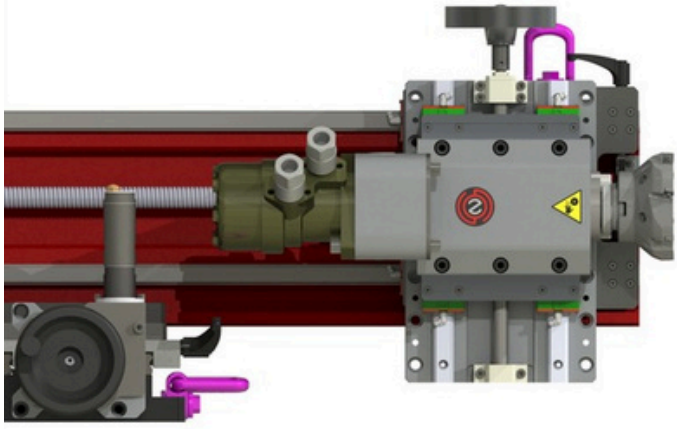

Additional Features

Tramming Adjustment of the Mill Head
The PMH3 Z-axis is equipped with integrated tramming adjustment screws that allow precise alignment of the milling head. This enables the operator to accurately correct the tilt and angular position of the spindle relative to the machined surface. Proper tramming ensures optimal cutting conditions, improved surface finish, and consistent machining accuracy across the entire milling area.

Adjustable Gearbox Positions
The spindle gearbox can be mounted in 3 orientations in 90-degree increments. This flexibility allows the machine to adapt to different installation positions and space constraints. The gearbox design also allows the drive motor to be mounted from below, which can be advantageous in tight working environments where overhead clearance is limited.

Digital Waterproof Depth Measurement
The spindle is equipped with an integrated digital depth measurement system that provides precise and reliable readout of the Z-axis position. This feature allows operators to control cutting depth accurately and improves repeatability during precision machining operations.

Horizontal Mill Head Position
When the machine is configured with the beam-style Y-axis, the milling head can be mounted in a horizontal orientation. This allows the PMH3 to machine vertical surfaces such as side faces of structures, vertical mounting plates, or weld seams. The capability significantly expands the range of on-site machining operations that can be performed without repositioning the machine.

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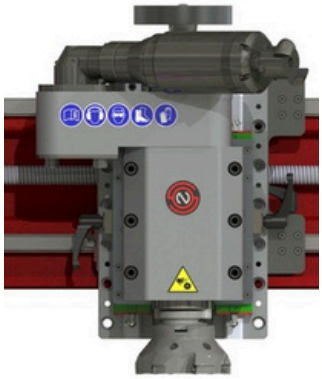

Drive Options

The 3-Axis Milling Machine can be configured with various spindle motor options to meet specific application requirements:

- Straight Air Drive (Standard): Equipped with a 3 kW air motor, this is the default drive option, providing reliable performance for most applications.
- Right-Angle Air Drive: Featuring a 2.5 kW air motor, this option is adjustable to multiple orientations, making it ideal for operations in confined or restricted spaces.
- Hydraulic 8kW Drive with strong hydraulic motor that provides consistent torque reliably in a compact format. Motor can be mounted underneath the gearbox for applications in confined spaces.
- Electric Drive: For applications requiring an electric solution, we offer a powerful 1.8 kW electric motor that operates with a 230 V or 110v connection, delivering high efficiency and consistent performance.

	Straight Air Drive	Right Angle Air Drive	Hydraulic Drive	Electric Drive
Speed	~850 rpm @ max power	~850 rpm @ max power	300 rpm	60-140 / 200-470 rpm
Output power	3.2kW	2.5kW	5 kW	1.8kW
Input	3100 l/min @ 6.2bar	2800 l/min @ 6.2bar	30l/min 200bar	230v/110v 1 phase

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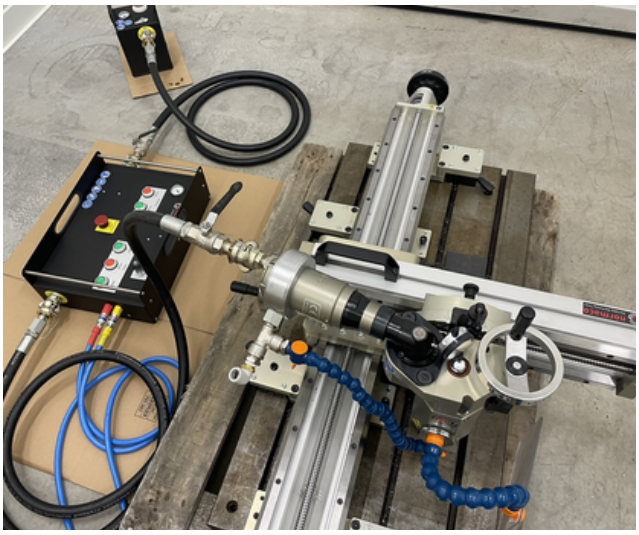

Remote Control Units

Unit improves operator safety and ease of use by allowing full control of the milling process from a safe and convenient distance. Available for both electric and pneumatic machine configurations, it enables the operator to manage key machining functions without direct contact with the machine, particularly valuable in confined, hazardous, or difficult-to-access working environments.

Core functions include spindle start and stop, feed direction control, and feed speed adjustment, allowing precise management of the X-axis power feed during operation. On electric models, the feed speed is clearly displayed in mm/min on the control panel, enabling accurate and repeatable machining results.

The electric system is based on a servo-driven auto feed solution, incorporating a high-quality Mitsubishi servo motor and inverter for smooth and consistent feed motion. A right-angle gearbox with four possible mounting orientations allows flexible installation to suit different setups. The system operates on a standard 230V single-phase supply and is delivered with motor and power cables in a dedicated carry case for easy transport and protection.

The pneumatic control unit provides similar operational functionality, including spindle control, feed speed adjustment, and X-axis feed start/stop and directional control. Integrated safety features such as emergency stop and accidental start-up prevention help protect the operator during operation. A built-in manometer and control hoses with quick couplings support straightforward setup and monitoring in air-powered environments.

Both versions are designed for reliable use in field conditions and incorporate overload protection and emergency stop functionality as standard, helping to maintain safe operation while improving operator control and working comfort.

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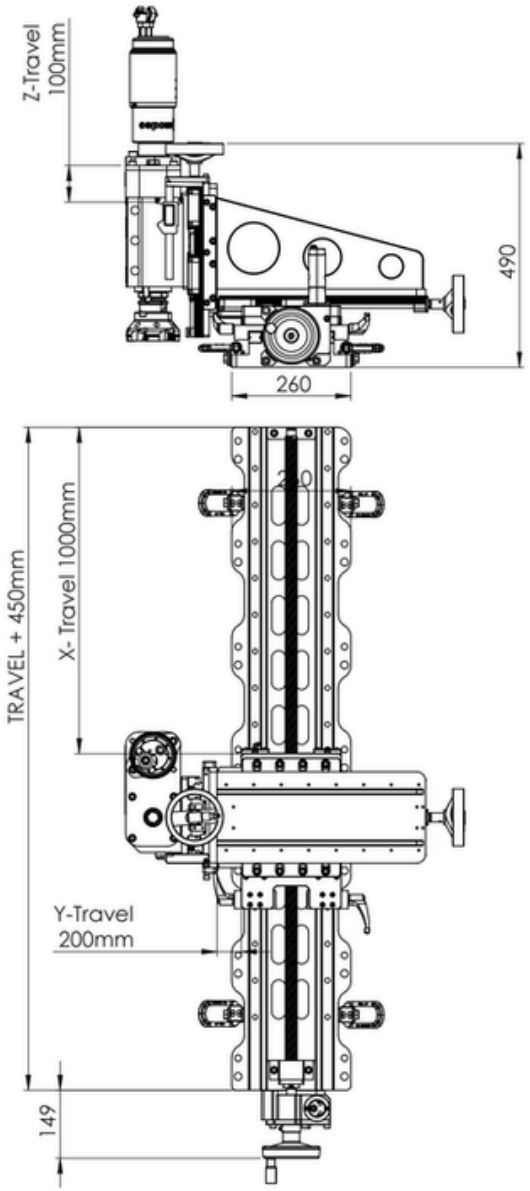
3 – Axis Configuration	
Travel	X-Travel: 1000/1500/2000mm /custom
	Y-travel: 200 mm
	Z-travel: 100 mm
Feed	X-axis: • Pneumatic 0.3kW & manual • Servo electric 0.4kW • Manual
	Y-axis: Manual
	Z-axis: Manual
Spindle	Motor options: • Pneumatic straight motor 3kW • Pneumatic angle motor 2.5kw • Electric 1.8kw 230v / 110v • Hydraulic
	Depth measurement with digital readout
	Spindle taper ISO 40 / optional ISO 50



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Gantry Configuration	
Travel	X-Travel: 1000/1500/2000mm /custom
	Y-travel: 800 - 2000 mm
	Z-travel: 100 mm
Feed	X-axis: • Pneumatic 0.3kW & manual • Servo electric 0.4kW • Manual
	Y-axis: • Pneumatic 0.3kW & manual • Servo electric 0.4kW • Manual
	Z-axis: Manual
Spindle	Motor options: • Pneumatic straight motor 3kW • Pneumatic angle motor 2.5kw • Electric 1.8kw 230v / 110v • Hydraulic
	Depth measurement with digital readout
	Spindle taper ISO 40 / optional ISO 50