ADD: Block A, No. 82-3, Dongshun St.,
Shulin Dist., New Taipei City 238, Taiwan
TEL：+886-2-8686-9292
FAX：+886-2-8686-3352

FINE CAUSE Pad Printer: Evolving into an Intelligent, Self-Computing Printing System

Pad Printer with AI: Patented Self-Computing Braking & Absolute Positioning Technology

Traditional pad printers rely on fixed mechanical positions or shock absorbers.

The new-generation AI Pad Printer from FINE CAUSE operates like it has its own intelligent brain—

it thinks, evaluates, and corrects itself in real time.

The latest advancements in pad printing technology now appear first at FINE CAUSE.

By integrating two national-level invention patents, our pad printers are no longer passive executors.

They actively perform self-computation and maintain absolute positioning, ensuring consistent accuracy regardless of speed, air pressure, or environment.

This is a pad printer that “calculates how to stop” and “ensures zero deviation” on its own.

ADD: Block A, No. 82-3, Dongshun St.,
Shulin Dist., New Taipei City 238, Taiwan
TEL：+886-2-8686-9292
FAX：+886-2-8686-3352

Two Core Patents Leading the New Era of Smart Pad Printing

① Pad Printer with Self-Computing Pneumatic Braking (Patent I906077)

Traditional pneumatic pad printers often face:

- Unstable braking & increasing collision noise
- Position drift requiring periodic recalibration
- Hydraulic shock absorber wear and oil seal aging

FINE CAUSE’s patented design removes the need for fixed screws or hydraulic buffers.

The machine automatically calculates the optimal braking point for every stroke:

✔ Computes optimal stop distance in real time

✔ Not affected by changes in speed or air pressure

✔ Zero collision noise

✔ Zero calibration

✔ Zero consumables

It works like a built-in “pneumatic braking AI”, ensuring each stop is the most accurate calculation possible.

ADD: Block A, No. 82-3, Dongshun St.,
Shulin Dist., New Taipei City 238, Taiwan
TEL：+886-2-8686-9292
FAX：+886-2-8686-3352

② Absolute Position Sensing (Patent 114115559)

Conventional pneumatic pad printers inevitably experience positional drift when speed or air pressure fluctuates.

FINE CAUSE’s second patent allows the machine to sense its position at all times. Through sensing technology and adaptive algorithms, it corrects deviations instantly—delivering consistent precision under any operating condition.

Position accuracy reaches ±0.01 mm, staying stable even during continuous 24-hour production.

✔ No drift despite speed fluctuations

✔ Remains precise despite air pressure changes

✔ Every cycle lands exactly at the same point

Three Stages of Pad Printer Evolution

| Past | → | Improvement | → | Present & Future |

- Positioning screws (traditional)
- Hydraulic shock absorbers (improved traditional)
- FINE CAUSE AI algorithm (modern & future)

ADD: Block A, No. 82-3, Dongshun St.,
Shulin Dist., New Taipei City 238, Taiwan
TEL：+886-2-8686-9292
FAX：+886-2-8686-3352

Smart Computation + Absolute Positioning = Ultra-Stable Intelligent Pad Printing System

These two patents give FINE CAUSE pad printers unprecedented advantages:

More Silent

– No impact noise

More Durable

– No oil seals, no shock absorber wear

More Precise

– Identical position for every printed piece

More Worry-Free

– Zero maintenance, zero calibration

Smarter

– Real-time self-computation during every movement

ADD: Block A, No. 82-3, Dongshun St.,
Shulin Dist., New Taipei City 238, Taiwan
TEL：+886-2-8686-9292
FAX：+886-2-8686-3352

Whenever the machine moves, it computes—

computing how to stop more steadily, more precisely, and more quietly.

This is FINE CAUSE’s complete redefinition of industrial pad printing machinery.

Comparison of Three Positioning Mechanisms

Item	Positioning Screws (Traditional)	Hydraulic Shock Absorber (Improved Traditional)	FINE CAUSE AI Algorithm (Patented)
Positioning Accuracy	Medium; decreases with wear	Stable but degrades with oil seal aging	**±0.01 mm absolute positioning** (unaffected by speed/air pressure)
Braking Method	Pneumatic impact stop	Hydraulic damping stop	**Real-time computed optimal braking point**
Noise	Impact noise increases over time	Starts quiet; becomes noisier as it ages	**Silent, zero impact**
Maintenance	Requires periodic recalibration	Oil seal/shock absorber replacement every 1 – 3 yrs	**No calibration, no consumables**
Sensitivity to Speed/Air Pressure	High	Medium (oil temperature affects damping)	**Extremely low (auto recalculates every cycle)**
Long-Term Stability	Low	Medium	**Highest — stable 24/7**
Cost	Low equipment cost; high maintenance	Medium cost + consumables	**Lowest long-term total cost**

Faster, More Stable, More Precise—The Future Starts Now

From early mechanical positioning screws,

to hydraulic buffering upgrades,

and now to AI-driven real-time correction,

pad printing has officially entered an era of intelligent accuracy and consistency.

ADD: Block A, No. 82-3, Dongshun St.,
Shulin Dist., New Taipei City 238, Taiwan
TEL：+886-2-8686-9292
FAX：+886-2-8686-3352

Now is the best time to upgrade your production line to the future of smart pad printing.