

Standard Specifications

Dispensing range*	0.03~2.0 mL/shot (Varies depending on pump combination.)
Ratio range*	100:100~100:5
Viscosity range*	1~300,000 mPa·s
Material tanks	(Higher viscosity material may be used by heating.)
Flushing tank	1 liter for resin, 1 liter for hardener (Square SUS tanks)
Metering principle	Air pressure-fed, 10 liters (SUS)
Mixer	Volumetric metering (Post-load)
Drive system	Dynamic or static mixer
Control system	Pneumatic cylinders
Air requirement	Small-sized programmable logic controller (PLC)
Power requirement	0.4 MPa minimum (Dry air)
Main body dimensions	100 VAC/500 W 535 (H) × 350 (W) × 615 (D) mm

* The above values are theoretical. Actual values can vary depending on the work environment and the resins being used.

Ratio Range by Pump Combination

1. Dispensing amount per stroke by piston diameter *

Piston diameter	Dispensing amount per stroke (mL) 25%(5mm)	50%(10mm)	75%(15mm)	100%(20mm)
ø8.0	0.251	0.503	0.754	1.005
ø7.0	0.192	0.385	0.577	0.770
ø5.5	0.119	0.238	0.356	0.475
ø4.0	0.063	0.126	0.188	0.251
ø3.0	0.035	0.071	0.106	0.141
ø2.0	0.016	0.031	0.047	0.063

The ratio of resin pump stroke to hardener pump stroke that maximizes the ratio range is 100% for the resin pump relative to 40% for the hardener pump. The maximum stroke for both pumps is 20 mm at 100% and the minimum stroke for both pumps is 5 mm at 25%. In the case of a combination of an ø8 resin pump and ø8 hardener pump, the ratio can be set within a range of 100 to 100:40. When the ratio is 100:100, the dispensing amount can be set within a range of 2.010 to 0.502 (mL); when the ratio is 100:40, the dispensing amount set within a range of 1.407 to 0.502 (mL). Choose a pump combination that best suits the intended application.

2. Ratio range by pump combination (For reference) *

	ø8.0	ø7.0	ø5.5	ø4.0	ø3.0	ø2.0
ø8.0	100 : 100~40	—	—	—	—	—
ø7.0	100 : 76~31	100 : 100~40	—	—	—	—
ø5.5	100 : 47~19	100 : 61~25	100 : 100~40	—	—	—
ø4.0	100 : 25~10	100 : 33~13	100 : 52~21	100 : 100~40	—	—
ø3.0	100 : 14~6	100 : 18~8	100 : 29~12	100 : 56~22	100 : 100~40	—
ø2.0	100 : 6~5	100 : 8~5	100 : 13~5	100 : 25~10	100 : 44~17	100 : 100~40

* The values in 1 and 2 above are theoretical. Actual values can vary depending on the work environment and the resins being used.

Optional Accessories

● Rotary mixers

In addition to the standard rotary mixer, we offer various optional mixers. Users can choose a particular pump that best suits the intended mixing state of resin, pot life and dispensing amount.



● Antifrictional plungers and change-over valves

If a liquid contains large amounts of highly abrasive filler, use an antifrictional plunger and an antifrictional change-over valve that are made of SiC (silicon carbide).



- Square open tanks (2 L, 4 L)
- Sealed tanks (1 L, 2 L, 3 L, 6 L)
- Sensor for detecting residual liquid quantity in a tank
- Stirrers
- Vacuum defoaming unit/Vacuum raw material feeder
- Heaters
- Antifrictional plungers and change-over valves

An eco-friendly solvent-free type of mixer is also available.

Note: This type of mixer cannot be used with certain types of resin, etc.
For detailed information, contact your nearest NLC sales office.



Products bearing this logo employ an eco-friendly solvent-free type mixer.

- 本製品は、改良のため予告なしに仕様・デザインなどを変更することがあります。
- 製品、サービスの詳細については、最寄りの営業所にご相談下さい。

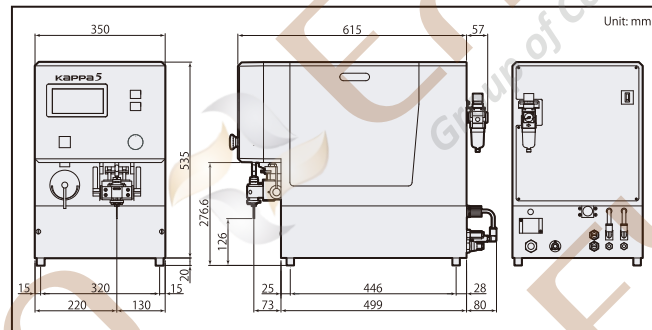
Developing the future technology of liquid handling

NLC Naka Liquid Control Co., Ltd.

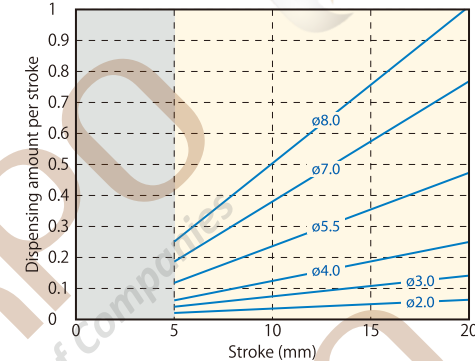
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Outside Dimensions—Standard Machine



● Dispensing range graph



NLC Naka Liquid Control

High performance in a compact body.

Friendly to humans and the environment, this dispenser boasts further improved operability with a touch panel.

Standard in ultra high-precision, two-component dispenser boasting excellent cost performance.

New model featuring an even more sophisticated design and improved operability.

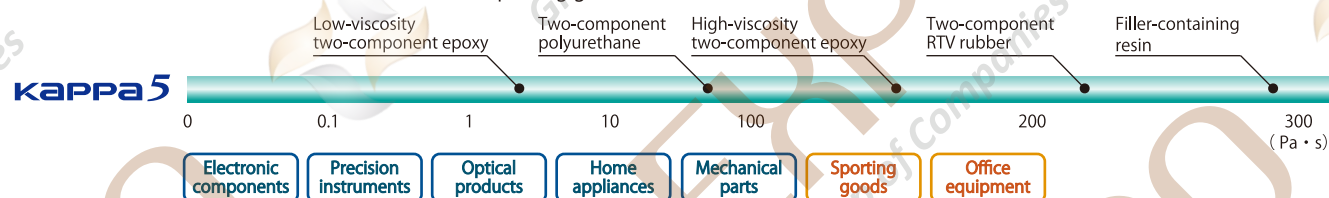
The KAPPA 5 is the latest model of our KAPPA series of automatic two-component metering, mixing and small-shot dispensers that have won the absolute trust of users in various fields of industry. Thanks to a newly adopted touch panel, it improves operability further.

Its simple body design helps improve operation efficiency, leading to a clean and comfortable workplace environment.

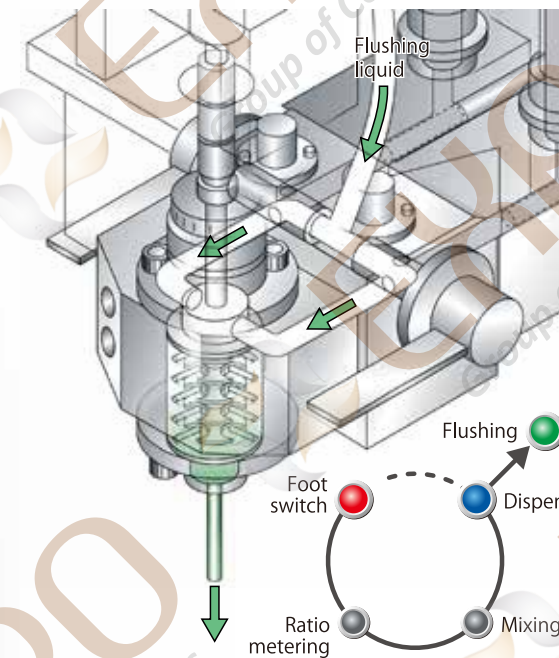
- The KAPPA 5 uses a well market-tested and proven volumetric metering posi-load pump that is a propriety design of Naka Liquid Control. Thus, the KAPPA 5 is capable of stably and constantly metering and dispensing liquid material at higher precision even if the viscosity of the material being handled varies.
- Unlike our conventional models, the new model is equipped with various timers as a standard to further improve functionality.
- This compact, easy-to-operate model can be readily set up in a small installation space.
- The mixer is driven by a quiet, compact high-speed brushless motor to help ensure a more comfortable workplace

■ Main Applications/Resin Types

For manufacturing various products from electronic components for use in office equipment to medicines, sporting goods, and automobiles.



Automatic control of ratio metering, mixing, and constant volume dispensing. Equipped with easy-to-use flush unit for flushing after use.



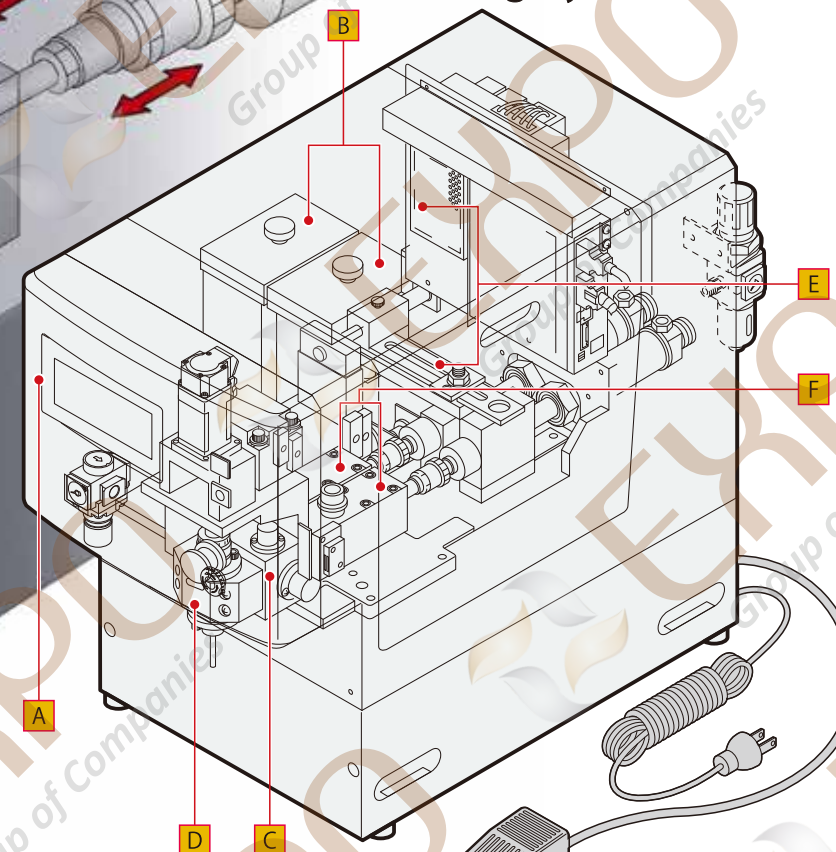
■ Operation cycle from ratio metering to dispensing

1. In the resin pump and hardener pump, each liquid is metered by piston action so as to dispense the predetermined amount.
2. The metered liquids are fed into the mixer.
3. The liquids are mixed by the rotor at high speed, and dispensed.

■ Flushing

The mixer interior is automatically flushed out by operation of a lever.

Easy-to-operate two-component dispenser. Highly efficient components for easy use.



A Control panel (Touch panel)

All the actions needed for dispensing can be controlled from the touch panel; the operator can easily access error messages and monitor the equipment while troubleshooting. Furthermore, the KAPPA 5 is equipped with a counter timer and antigel timer as standard features, making dispensing smoother and more practical. An integrated man-friendly interface allows even a less experienced operator to undertake reliable dispensing operation.

B Tanks

The KAPPA 5 has built-in resin and hardener tanks (1 liter each). Each tank functions without pressurization, and can be detached/attached from/to the dispenser main body for swift maintenance work.

C Change-over valve

The change-over valve opens or closes the resin and hardener feed paths from the metering pumps and also switches dispensing and flushing paths.

D Mixer

The rotary mixer is essential towards thoroughly mixing and dispensing two-component liquids. The vaned rotor rotates at a constant speed to mix the two liquids fed into the chamber. Even if the mixture liquid gels in the mixer, the mixer can be detached from the dispenser for easy maintenance work.

<Specifications>
Mechanical seal material: SiC
Body material: SUS303
Chamber capacity: Approximately 1 mL
Rotational speed: 1,500 rpm
Motor: Compact, high-speed brushless motor (Variable speed)

F Metering pumps

The KAPPA 5 has adopted posi-load pumps (volumetric metering type) to provide highly accurate metering of even the smallest amount of liquid. It is possible to meter liquids across a wide range from 0.015 to 1 mL (per pump) by selecting the pump piston diameters. This volumetric metering method is applicable to a wide variety of liquids, since it can achieve accurate metering irrespective of liquid viscosity changes and temperature changes.

E Ratio changing/Discharge regulating unit

The dispensing amount and mixing ratio can vary depending on the liquid types and intended applications. The KAPPA 5 is capable of changing mixing ratio (volumetric ratio) by changing the effective piston stroke of the hardener pump relative to that of the resin pump. In addition, the dispensing piston strokes for resin and hardener can be easily changed simply by turning the dispensing amount control dial to adjust the dispensing amount.