

# Process Pumps (Diaphragm Pumps)

Diaphragm type process pump — choose according to fluid, size, function and purpose

Modified PTFE used as diaphragm material.  
Product longevity has been achieved with improved durability.



## PA Series

p. 396



PA5000

PA3000

- Compact, large volume general purpose pump  
Designed for low particle generation, with no sliding part on the wetted part

Max. flow 63 L/min	Automatically operated/ Air operated	Built-in solenoid valve	Built-in pulsation attenuator
Metal/ Polypropylene wetted parts	ATEX	Clean Wet	LQ fittings compatible
Non-metal	Resin coated metal parts	Compatible with leakage sensor	

## PA(P) Series

p. 454



PAP3000

- Clean Wet Series  
100% fluoropolymer wetted part  
(cannot be used for acid and alkali-based liquids)

Max. flow 13 L/min	Automatically operated/ Air operated	Built-in solenoid valve	Built-in pulsation attenuator
Fluoropolymer wetted parts	ATEX	Clean Wet	LQ fittings compatible
Non-metal exterior	Resin coated metal parts	Compatible with leakage sensor	

## PAF Series

p. 428



PAF5000

- Non-metallic pump
- PPS/PFA dual construction  
Improved pressure resistance, and compactness unique to SMC achieved

Max. flow 45 L/min	Automatically operated/ Air operated	Built-in solenoid valve	Built-in pulsation attenuator
Fluoropolymer wetted parts	ATEX	Clean Wet	LQ fittings compatible
Non-metal	Resin coated metal parts	Compatible with leakage sensor	

## PAX Series

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PAX1000

- Bumper not needed  
Separate piping not required  
Built-in pulsation attenuator

Max. flow 10 L/min	Automatically operated	Built-in solenoid valve	Built-in pulsation attenuator
Metal body wetted parts	ATEX	Clean Wet	LQ fittings compatible
Non-metal	Resin coated metal parts	Compatible with leakage sensor	

## PB1313A Series

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PB1313A

- Body wetted parts made of all fluoropolymer,  
Compact pump for DI water/chemical liquids  
(Cannot be used for acids and alkali-based liquids)

Max. flow 1 L/min	Air operated	Built-in solenoid valve	Built-in pulsation attenuator
Fluoropolymer wetted parts	ATEX	Clean Wet	LQ fittings compatible
Non-metal exterior	Resin coated metal parts	Compatible with leakage sensor	

## PAF3000

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PAF3000

- 100% fluoropolymer wetted part
- A leakage sensor compatible with various liquids can be mounted later.

Max. flow 20 L/min	Automatically operated/ Air operated	Built-in solenoid valve	Built-in pulsation attenuator
Fluoropolymer wetted parts	ATEX	Clean Wet	LQ fittings compatible
Non-metal exterior	Resin coated metal parts	Compatible with leakage sensor	

## PB Series

p. 470



PB1000A

- Compact, large capacity diaphragm pump,  
suitable for transferring and collecting a wide range of fluids

Max. flow 2 L/min	Air operated	Built-in solenoid valve	Built-in pulsation attenuator
Polypropylene wetted part	ATEX	Clean Wet	LQ fittings compatible
Non-metal	Resin coated metal parts	Compatible with leakage sensor	

## Viewing the features of each product

...If compatible products are available within a series, they are marked in blue.

Max. flow 13 L/min	Automatically operated/ Air operated	Built-in solenoid valve	Built-in pulsation attenuator
Fluoropolymer wetted parts	ATEX	Clean Wet	LQ fittings compatible
Non-metal exterior	Resin coated metal parts	Compatible with leakage sensor	

Greyed out if compatible products are unavailable.

### Note

- CE explosion proof directive's Group II category 3 (category 2 for some products) compatible product
- Clean Wet...mounted inside the clean room.
- Refer to pages 485 and 486 for a detailed applicable fluids list.
- Refer to the pages in the table below for made to order products.

PA3000/5000	PA(P)	PAX	PB1000A	PB1313A	PAF
p. 407, 419	-	-	p. 477	-	p. 450

- Refer to the pages in the table below for part numbers of maintenance parts.

PA	PA(P)	PAX	PB1000A	PB1313A	PAF
p. 403	p. 459	p. 467	p. 475	p. 481	p. 439

- Please read the precautions on pages 487 to 490 before using the products.
- Non-metal exterior...All parts except for wetted parts are metal.
- All metal parts coated in resin...Metal parts are coated in resin and are not exposed.

## Double Acting Pump *PA Series*

p. 396

Series	Model	Actuation	Discharge rate L/min	Material		Details
				Body	Diaphragm	
PA3000	PA3□□0	Automatically operated type	1 to 20	ADC12 (Aluminum) SCS14 (Stainless steel)	PTFE NBR	p. 400
	PA3□13	Air operated type	0.1 to 12		PTFE	
PA5000	PA5□□0	Automatically operated type	5 to 63	ADC12 (Aluminum) SCS14 (Stainless steel) PP (Polypropylene)	PTFE NBR	p. 409
	PA5□13	Air operated type	1 to 50		PTFE	
PA(P)3000	PA(P)3310	Automatically operated type	1 to 13	New PFA (Fluororesin)	PTFE	p. 457
	PA(P)3313	Air operated type	0.1 to 9			
PAX1000	PAX1□12	Automatically operated type, built-in pulsation attenuator	0.5 to 10	ADC12 (Aluminum) SCS14 (Stainless steel)	PTFE	p. 465

## Double Acting Pump *PAF Series*

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Series	Model	Actuation	Discharge rate L/min	Material		Details
				Body	Diaphragm	
PAF3000	PAF3410	Automatically operated type	1 to 20	New PFA (Fluororesin)	PTFE	p. 431
	PAF3413	Air operated type	1 to 15			
PAF5000	PAF5410	Automatically operated type	5 to 45			
	PAF5413	Air operated type	5 to 38			p. 432

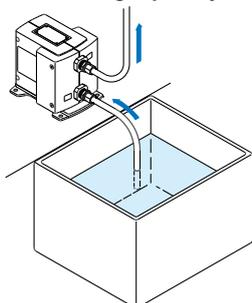
## Single Acting Pump *PB Series*

p. 470

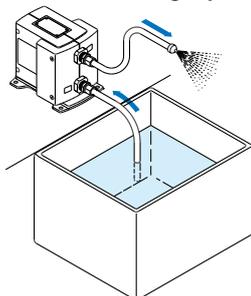
Series	Model	Actuation	Discharge rate L/min	Material		Details
				Body	Diaphragm	
PB1000A	PB1011A	Built-in solenoid valve type	0.008 to 2	Polypropylene Stainless steel 316 (Stainless steel)	PTFE	p. 473
	PB1013A	Air operated type	0.008 to 1			
	PB1313A	Air operated type	0.008 to 1	New PFA (Fluororesin)	PTFE	p. 478

### Application Examples

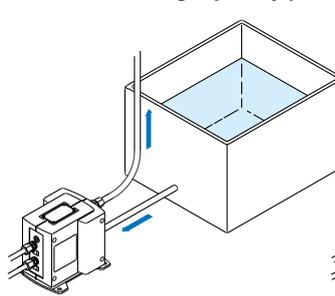
Transferring liquid by suction



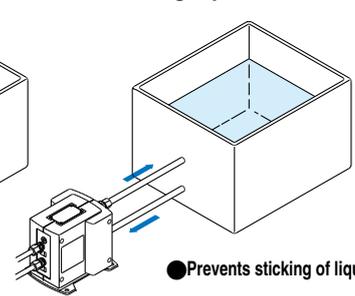
Atomizing liquid



Transferring liquid by pressure



Stirring liquid



● Prevents sticking of liquids

## Liquid Dispense Pump *LSP Series*

p. 492



Model	Discharge rate	Material			Fluid*	Details
	μ L	Body	Diaphragm	Check valve		
<b>LSP111/112</b>	5 to 50	PEEK PP	EPDM FKM	EPDM FKM	Water DI water (Pure water) Diluent Cleaning fluid	p. 494
<b>LSP121/122</b>	50 to 100					
<b>LSP131/132</b>	100 to 200					

\* These fluids should not corrode or permeate into the fluid contact materials.