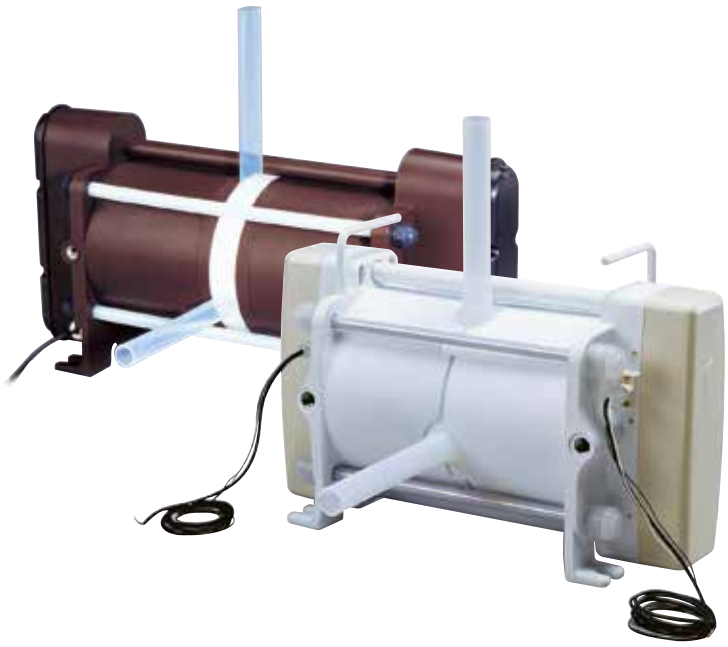
The Heart of Industry

IWAKI

IWAKI PNEUMATIC DRIVE BELLOWS PUMPS

F



Solutions for chemical handling applications

For high purity chemical handling applications in semiconductor processing applications

The F-Series includes pneumatic drive bellows pumps that are designed for use in the semiconductor manufacturing processes.
Iwaki introduced the first designs over 20 years ago and has continually developed new products to keep up with rapidly changing market needs.
With over 20 different models available the quality and performance of our products has made them the preferred solution by device manufactures all over the world.
Their quality and performance are recognized and highly rated by device manufacturers all over the world.

We offer not only pump solutions, but also accessories including controllers, dampeners, and liquid chemical supply systems that have been developed to compliment a comprehensive portfolio of quality equipment for wet process and surface preparation applications.

Guideline for pump selection

Max. discharge capacity (L/min)	Max. supplied air pressure (MPa)	Model	Max. air consumption (NL/min)	Temperature range (˚C)	Main materials	
					PTFE	PFA
100	0.5	FS-H	1210	5-180	○	○
100	0.7	FS-N	1495	5-60	○	○
80	0.5	FW	820	10-100	○	○
40	0.5	FW-H	480	10-180	○	○
22	0.3	FF	180	5-100	○	○
40	0.2	FF-H	200	20-180	○	○
40	0.4	FA	200	5-100	○	○

*Please check the specifications of each pump for liquid temperature and maximum supply air pressure.

Application

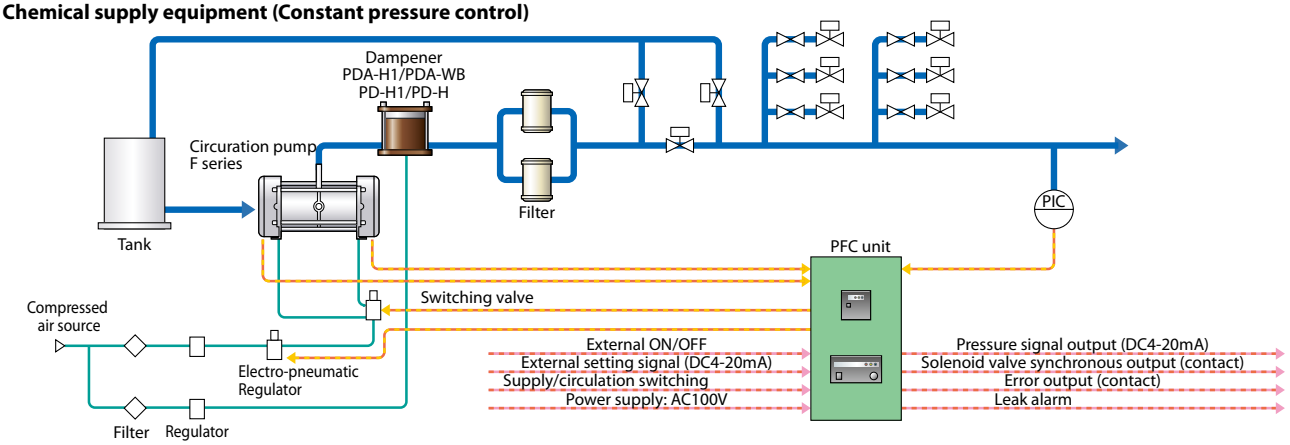
◎ Usable ○ Usable depend on condition

Model		FS-H	FS-N	FW	FW-H	FF	FF-H	FA	CFD
Wafer wet-bench	Cleaning(Batch process)	◎	◎	◎	◎	◎	◎	◎	—
	Cleaning(Single wafer)	◎	◎	◎	◎	◎	◎	◎	—
Chemical supply equipment		◎	◎	◎	—	○	—	○	—
CMP process	Mixed-liquid circulation/Transfer	◎	◎	◎	—	○	—	○	—
	Cleaning	◎	◎	◎	—	◎	—	◎	—
Chemical repleshing equipment		—	—	—	—	—	—	—	◎

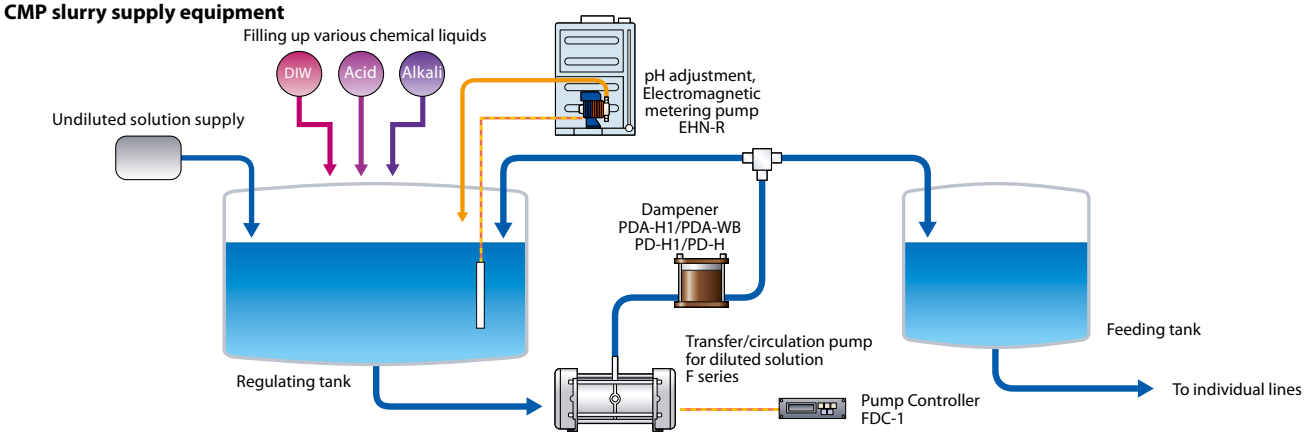
*Liquid temperature conditions vary depending on the pump specifications.

Example of installation

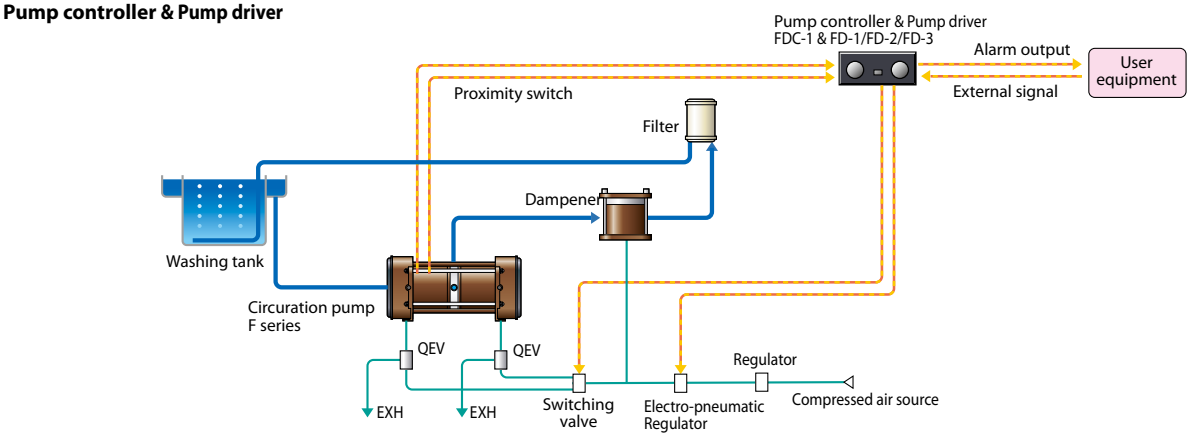
Chemical supply equipment (Constant pressure control)



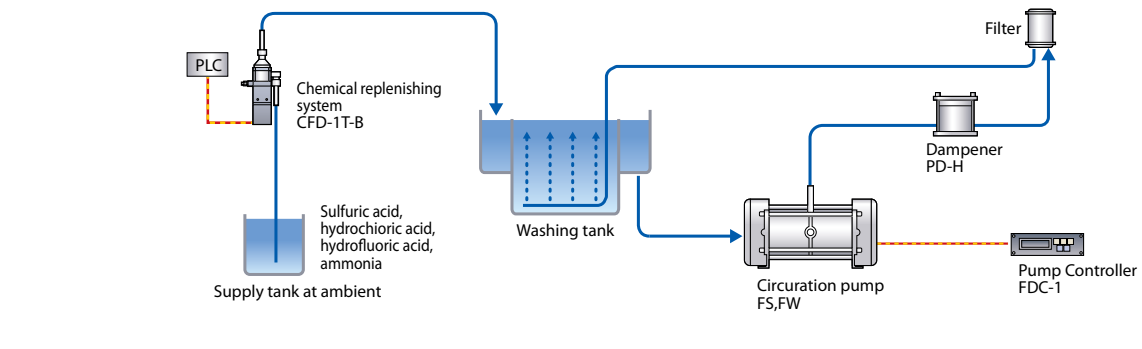
CMP slurry supply equipment



Pump controller & Pump driver



Wafer wet-bench



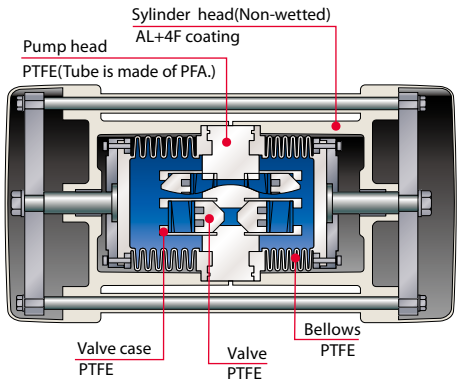
FS-H Series

A small, lightweight and cost effective solution

FS-30HT

- Using a higher stroke rate (240 spm maximum) has resulted in a reduction in size, weight and cost as well as reduced pulsation. Note: The maximum stroke rates are dependent on model and application; please refer to the specification table for details.
- All liquid contact components are constructed of high purity fluoroesin materials. The exterior of the units are also coated in fluoroesin so that no metallic components are exposed. FS-H pumps also utilize our own shaft seal design (patent pending) resulting in a marked reduction in particle generation.
- The pumps are rated for liquid temperatures ranging from 5 - 180 °C with discharge pressure to 0.45 MPa. Applications include wet process circulation and CMP processes, as well as chemical distribution feed systems.
- The FS-H body design eliminates the need for periodic tightening of the stud bolts. External access to the proximity sensors results in reduced maintenance and down time.
- The pump uses a proximity sensor drive system which opens/closes an external air solenoid valve providing easy performance control capabilities that are compatible with a variety of controller options.

Construction and materials



Pump identification

FS - 15 H T1 - 01

Series code
Iwaki pneumatic drive bellows pump
FS series

Pump size
15 : Max. discharge capacity 15L/min
30 : Max. discharge capacity 30L/min
60 : Max. discharge capacity 55L/min

Liquid temperature
H : High-liquid temperature(5 -180˚C)

Sealing structure of pump head/bellows
T1 : Tube connection
(suction opening / discharge opening) / Bellows separation type
T2 : Tube connection
(suction opening / discharge opening) / Welded one-piece structure

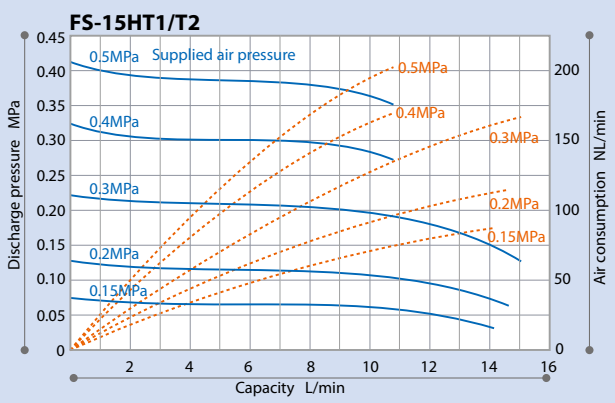
Special specification
Without code : Standard specification
01 : Special specification (01,02 ...)

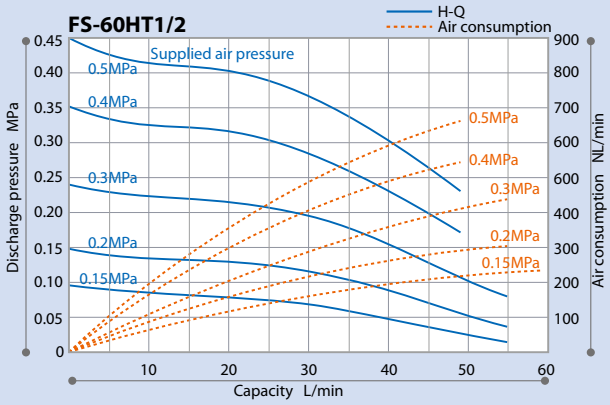
Specification

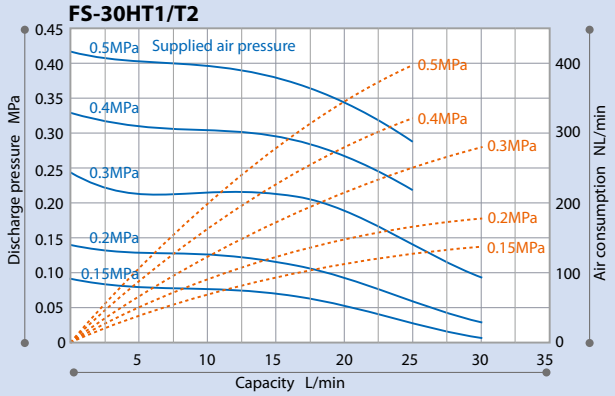
Model		FS-15HT1/T2			FS-30HT1/T2			FS-60HT1/T2		
Max. discharge capacity	L/min	15			30			55		
Air supply pressure range	MPa	0.15 – 0.5	0.15 – 0.3	0.15 – 0.2	0.15 – 0.5	0.15 – 0.3	0.15 – 0.2	0.15 – 0.5	0.15 – 0.3	0.15 – 0.2
Liquid temperature range	˚C	5 – 50	51 – 100	101 – 180	5 – 50	51 – 100	101 – 180	5 – 50	51 – 100	101 – 180
Max. air consumption	NL/min	200	160	110	370	280	170	670	440	300
Max. stroke speed*	spm	240			220			200		
Pump connection size		1/2" PFA tube			ø19xø16mm PFA tube			ø25xø22mm PFA tube		
Supply air connection size		Rc1/4						Rc3/8		
Ambient temperature	˚C	0 – 40								
Drive system		By proximity switch								

*180 spm maximum with feed air pressures between 0.3 and 0.5 MPa.
Note: Max. discharge capacity shows when pumping clear water at 20˚C.

Perfomance curves

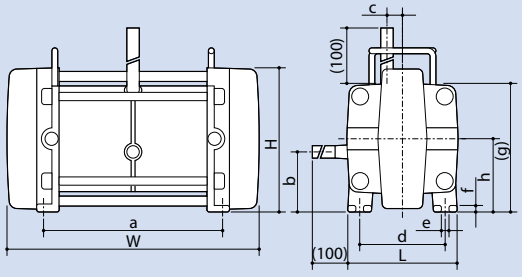






Dimentions in mm

Model	W	L	H	a	b	c	d	e	f	g	h
FS-15HT1/T2	315	120	166	213	77	15.5	96	10	8	144	84
FS-30HT1/T2	390	151	208	272	93	23	115	10	9	180	105
FS-60HT1/T2	441	194	251	317	107	27	152	12	11	224	127

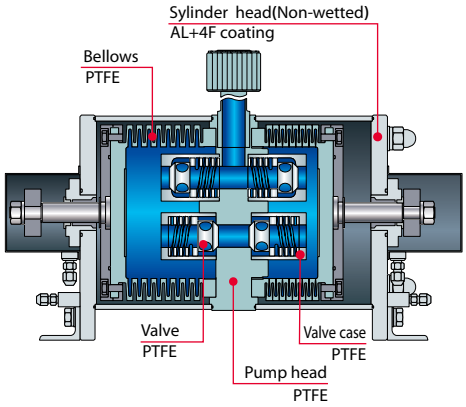


FS-100HT2

Flow and temperature capabilities offer improved process efficiencies

- Maximum flow rate of up to 100 L/min with 180˚C liquid. This allows delivery of CARO (SPM) or H3PO4 at a flow rate 1.8 times higher than our existing pumps (55 L/min).
- Higher flow rates improve cleaning efficiency and removal of containments during wafer processing. Cleaning times are also reduced in systems with multiple processing lines.
- In addition to the use of fluoroplastic wet ends (PTFE and PFA), a fluorine coating on the pump's outer surfaces offers the best resistance to vapors from acid, alkali and hydrogen peroxide chemistries used in semiconductor manufacturing.
- Optimization of design has resultind in reduced weight of about 15% of our existing 80-100L models making installation and replacement work easier.
- The model adopts a sensor drive system that switches the solenoid valve using the proximity switch built into the pump. A leak sensor is also included as standard equipment.

Construction and materials



Pump identification

FS - 100 H T2 - 01

Series code
Iwaki pneumatic drive bellows pump
FS series

Pump size
100: Max. discharge capacity 100L/min

Liquid temperature
H : High-liquid temperature(10 -180˚C)

Sealing structure of pump head/bellows
T2 : Tube connection
(suction opening / discharge opening) / Welded one-piece structure

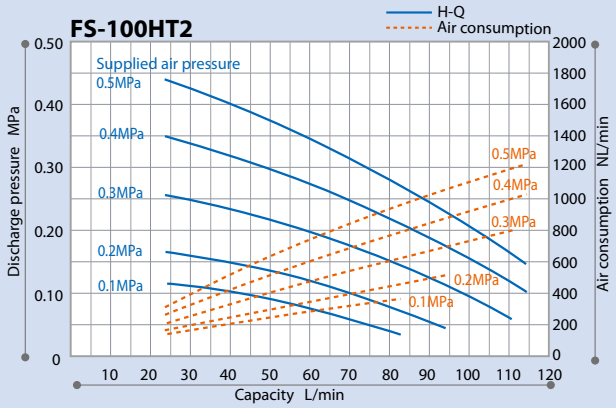
Special specification
Without code : Standard specification
01 : Special specification (01,02 ...)

Specification

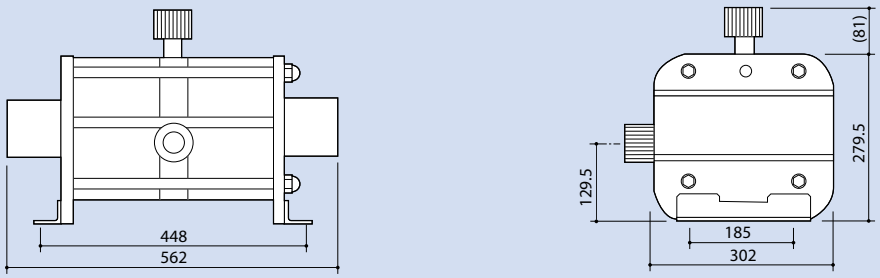
Model		FS-100HT2		
Max. discharge capacity	L/min	100		
Air supply pressure range	MPa	0.15 - 0.5	0.15 - 0.4	0.15 - 0.3
Liquid temperature range	°C	10 - 100	101 - 140	141 - 180
Max. air consumption	NL/min	1210		
Max. stroke speed	spm	120		
Pump connection size		1-1/4" fittings (SUPER 300-type PILLAR FITTINGS manufactured by Nippon Pillar Packaging Co., Ltd.)		
Supply air connection size		Rc 1/2		
Allowable ambient temperature	°C	0 - 60		
Drive system		By proximity switch		

Note: Max. discharge capacity shows when pumping clear water at 20°C.

Perfomance curves



Dimentions in mm



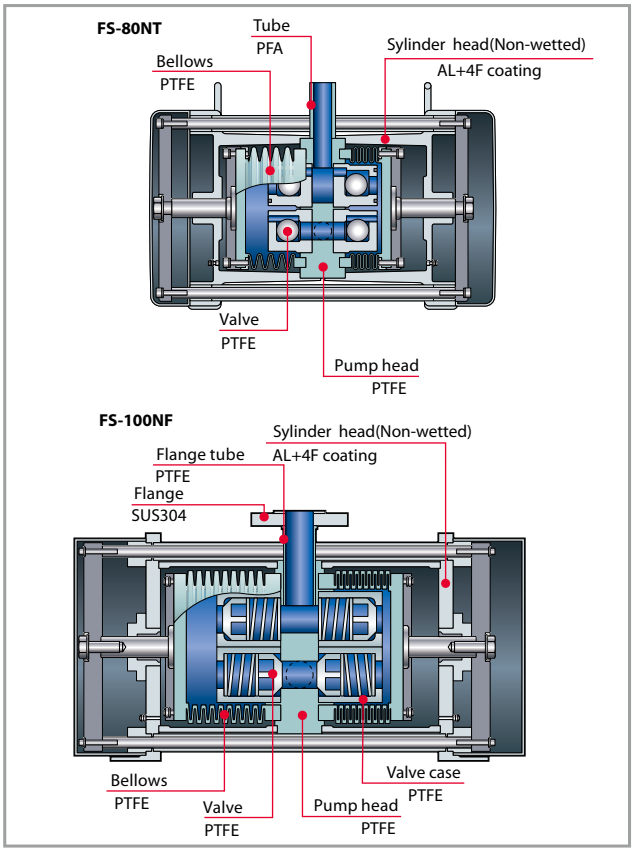
FS-N Series

Max 100L/min. High flow design for chemical distribution applications

FS-100NF

- Perfectly suited to high flow & pressure chemical distribution requirements.
- The high stroke rate (Max 200 SPM:FS-80NT) provides for a compact, lightweight and lower cost option without sacrificing flow and pressure capability.
- All liquid contact materials are made of high purity fluororesin resulting in contamination-free construction. Our unique patented shaft seal (FS- 80NT...PAT.) also dramatically reduces particle generation.
- The pump utilizes a built in proximity sensor driven control system to switch an external air solenoid valve. Leak sensors are also included as standard equipment.
- Seal welded pump head and bellows eliminate leakage.

Construction and materials



Pump identification

FS - 80 N T - 01

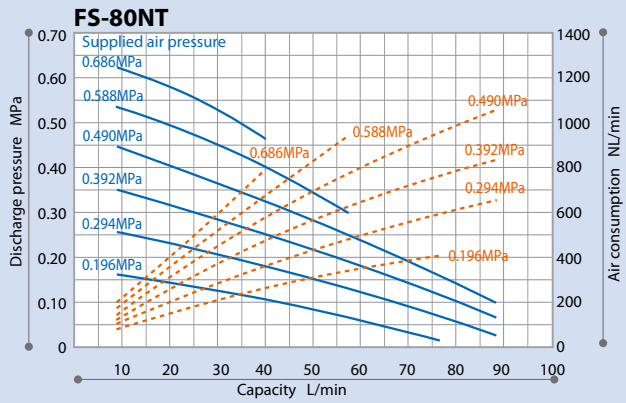
- **Series code**
  Iwaki pneumatic drive bellows pumps
  FS series
- **Pump size**
  80 : Max. discharge capacity 80 L/min
  100 : Max. discharge capacity 100 L/min
- **Liquid temperature**
  N : 5 - 60 °C
- **Pump connection**
  T : Tube connection (FS-80N standard)
  F : Flange connection (FS-100N standard)
- **Special specification**
  Without code : Standard specification
  01 : Special specification (01,02 ...)

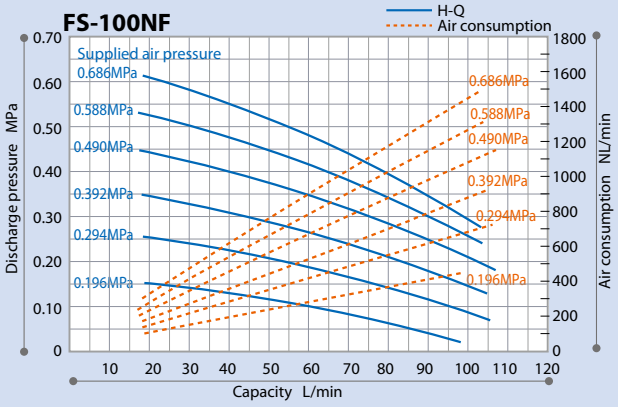
Specification

Model		FS-80NT			FS-100NF
Max. discharge capacity	L/min	80			100
Air supply pressure range	MPa	0.25 - 0.5	0.5 - 0.6	0.6 - 0.7	0.2 - 0.7
Liquid temperature range	˚C	5 - 60			5 - 50
Max. air consumption	NL/min	1029	938	787	1495
Max. stroke speed	spm	200	150	110	100
Self-priming height limit		1 m on more			1 m on more
Pump connection size		1" PFA tube			25A Flange
Wet-end materials		PTFE, PFA			PTFE,PFA
Supplied air connection size		Rc3/8			Rc1/2
Ambient temperature	˚C	0 - 40			
Drive system		By proximity switch			

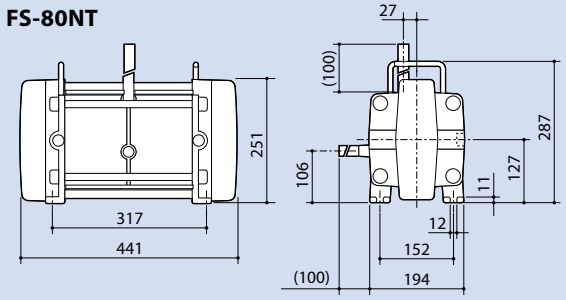
Note: Max. discharge capacity shows when pumping clear water at 20˚C.

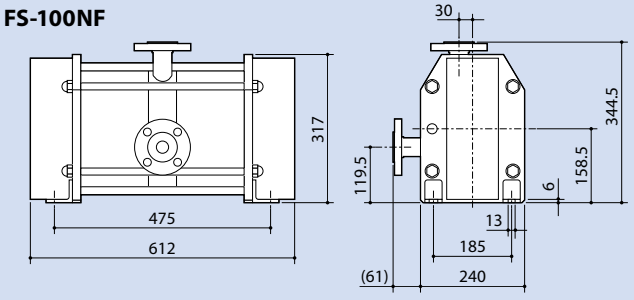
Perfomance curves





Dimentions in mm





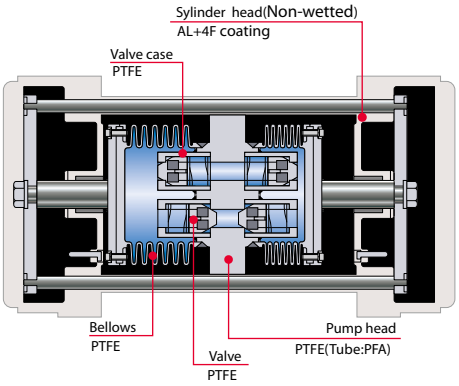
FW/FW-H Series

Robust bellows design provides for high pressure capability and extended service life

FW-20HT2

- The use of a thick bellows increases the pumps discharge pressure rating to as high as 0.45 MPa maximum. In addition, the bellows have three to four times longer service life than a diaphragm. This results lower case a substantially reduced downtime.
- This design is commonly used for chemical feed, the FW series can be used in high pressure and medium temperature (10 - 100 °C) cleaning systems as well as for the circulation of CMP slurry liquids. The FW-H with its higher temperature capability (10 - 180 °C) is ideal for chemical circulation in wafer cleaning applications.
- Easily adaptable fitting capability, the internally formed PFA suction and discharge tubes prevent the accumulation of particles.
- When connected to a special controller, the discharge can be monitored and controlled easily.
- The pump utilizes a built in proximity sensor driven control system to switch an external air solenoid valve. Leak sensors are also included as standard equipment.

Construction and materials



Pump identification

FW - 20 H T1 - 01

Series code
Iwaki pneumatic drive bellows pump
FW series

Pump size
20 : Max. discharge capacity 20L/min
40 : Max. discharge capacity 40L/min
80 : Max. discharge capacity 80L/min

Liquid temperature
Without code : Medium-liquid temperature(10 -100˚C)
H : High-liquid temperature(10 -180˚C)

Sealing structure of pump head/bellows
T1 : Tube connection
(suction opening / discharge opening) / Bellows separation type
T2 : Tube connection
(suction opening / discharge opening) / Welded one-piece structure

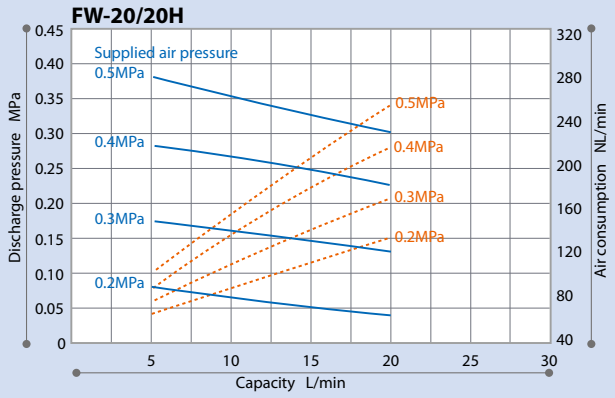
Special specification
Without code : Standard specification
01 : Special specification (01,02 ...)

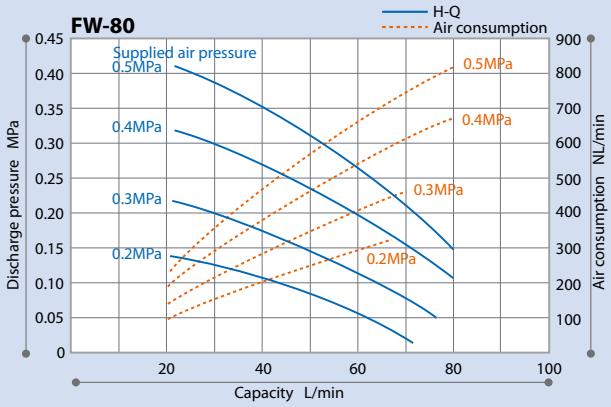
Specification

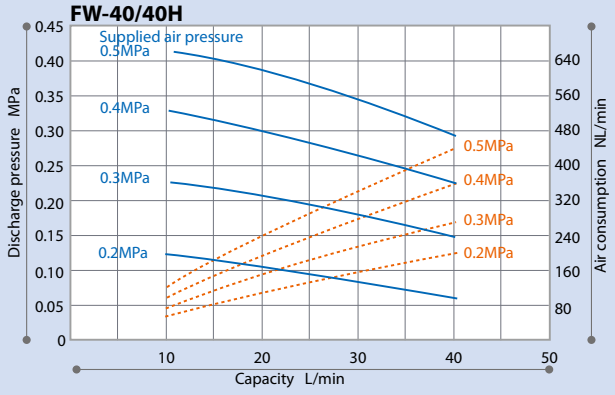
Model		FW-20	FW-40	FW-80	FW-20H			FW-40H		
Max. discharge capacity	L/min	20	40	80	20			40		
Air supply pressure range	MPa	0.2 - 0.5			0.2 - 0.5	0.15 - 0.3	0.15 - 0.2	0.2 - 0.5	0.15 - 0.3	0.15 - 0.2
Liquid temperature range	˚C	10 - 100	10 - 100	10 - 80	10 - 100	101-150	151-180	10 -100	101-150	151-180
Max. air consumption	NL/min	330	480	820	330	200	140	480	300	220
Max. stroke speed	spm	120	80	80	20			80		
Pump connection size		ø19×φ16mm PFA tube	ø25×ø22mm PFA tube		ø19×ø16mm PFA tube			ø25×ø22mm PFA tube		
Supplied air connection size		Rc1/4	Rc3/8	Rc1/2	Rc1/4			Rc3/8		
Ambient temperature	˚C	0 - 40								
Drive system		By proximity switch								

Note: Max. discharge capacity shows when pumping clear water at 20˚C.

Perfomance curves

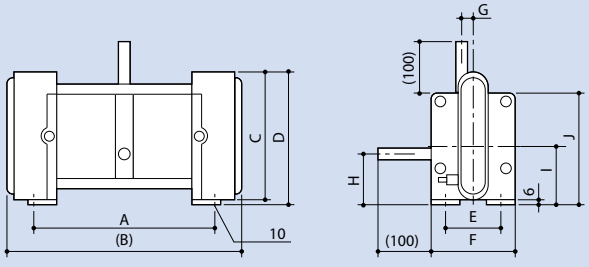






Dimentions in mm

Model	A	(B)	C	D	E	F	G	H	I	J
FW-20/20H	347	458	218	221	105	140	22	90	112	182
FW-40/40H	435	542	240	250	143	183	25.5	102	130	220
FW-80	464	600	302	317	185	240	27	119.5	158.5	317



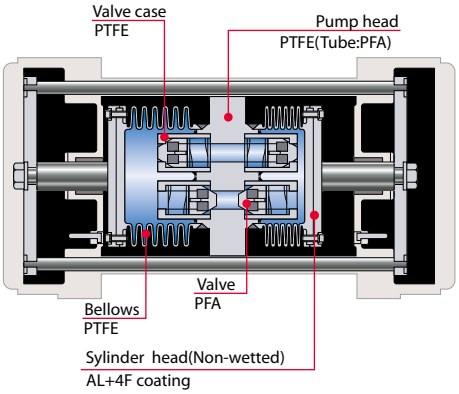
FF/FF-H Series

Energy efficient design consumes less air


FF-20HT

- The FF series is designed for use with medium temperature liquids (Al cylinder type: 5 to 100˚C, PVC cylinder type: 5 to 50˚C) and the FF-H series is designed for temperatures ranging from 20 to 180˚.
- All liquid contact components are constructed of high purity fluoroesin materials with no metal or elastomers. The bellows are welded to the center eliminating leaks associated with heat cycles. The efficient design minimizes dead air volume surrounding the bellows to minimize air consumption.
- Shaft packing is easily accessible externally, no need to disassemble the pump for replacement.
- Suction and discharge fluid connections are PFA tubes and for FF models PFA tubes with special fittings are available.
- The pump utilizes a built in proximity sensor driven control system to switch an external air solenoid valve. Leak sensors are also included as standard equipment.

Construction and materials



Pump identification

FF - 20 B T 1 - 01

- **Series code**
  Iwaki pneumatic drive bellows pump
  FF : Medium-liquid temperature(5 -100˚C)
- **Pump size**
  10 : Max. discharge capacity 10L/min
  20 : Max. discharge capacity 20L/min
- **Cylinder material**
  B : AL+4F coating
  C : PVC
- **Pump connection method (suction/discharge)**
  T : Tube connection
- **Sealing structure of pump head/bellows**
  1 : Bellows separation
- **Special specification**
  Without code : Standard specification
  01 : Special specification (01,02 ...)

FF - 20 H T - 01

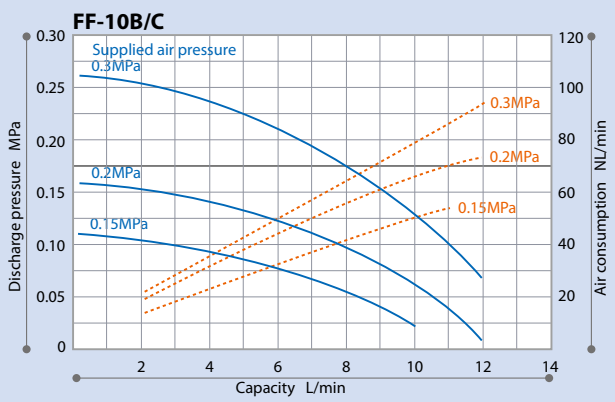
- **Series code**
  Iwaki pneumatic drive bellows pump
  FF-H: High-liquid temperature(20 -180˚C)
- **Pump size**
  20 : Max. discharge capacity 20L/min
  40 : Max. discharge capacity 40L/min
- **Pump connection method (suction/discharge)**
  T/T1: Tube connection
- **Special specification**
  Without code : Standard specification
  01 : Special specification (01,02 ...)

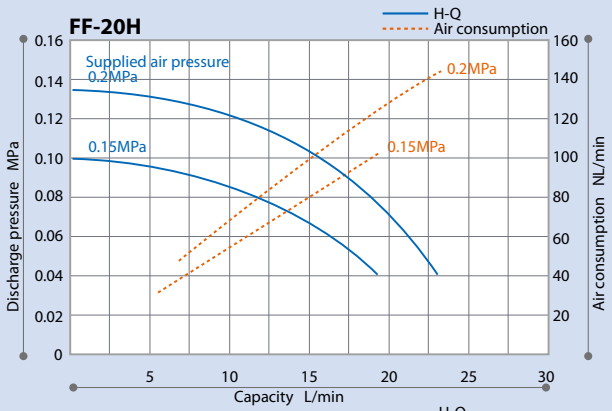
Specification

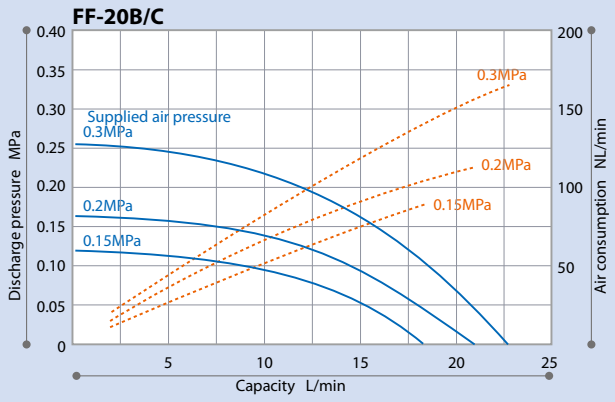
Model		FF-10BT/CT1	FF-20BT/CT1	FF-20HT	FF-40HT1
Max. discharge capacity	L/min	10	22	20	40
Air supply pressure range	MPa	0.15- 0.3		0.15 - 0.2	
Liquid temperature range	˚C	B type : 5-100 C type : 5 - 50*		20 -180	
Max. air consumption	NL/min	90	180	150	200
Max. stroke speed.	spm	120		120	80
Pump connection size		1/2" PFA tube	3/4" PFA tube	3/4" PFA tube	ø25 x ø22mm PFA tube
Supplied air connection size		Rc1/4		Rc1/4	Rc3/8
Ambient temperature	˚C	0-40			
Drive system		By proximity switch			

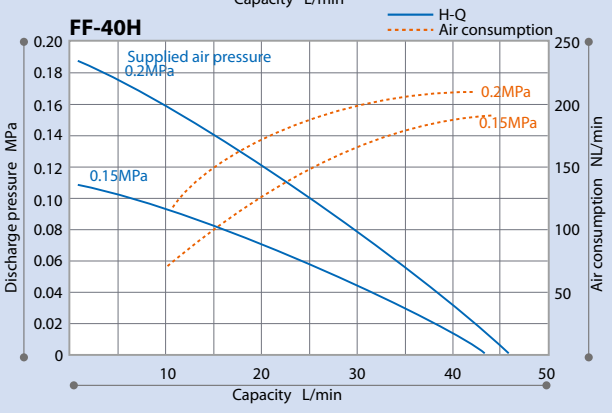
* The cylinder of the "B" type is made of aluminum and tetrafluororesin and that of the "C" type is of PVC.
Note: Max. discharge capacity shows when pumping clear water at 20˚C.

Perfomance curves



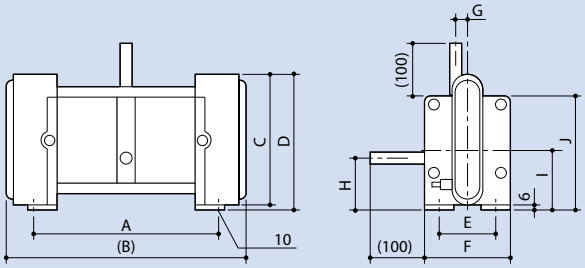






Dimentions in mm

Model	A	(B)	C	D	E	F	G	H	I	J
FF-10	266	361	188	191	84	114	14.5	82	97	154
FF-20/20H	288	400	218	221	105	140	20	91/80	112	182
FF-40H	431	533	240	250	143	183	23.5	97	130	220



FA Series

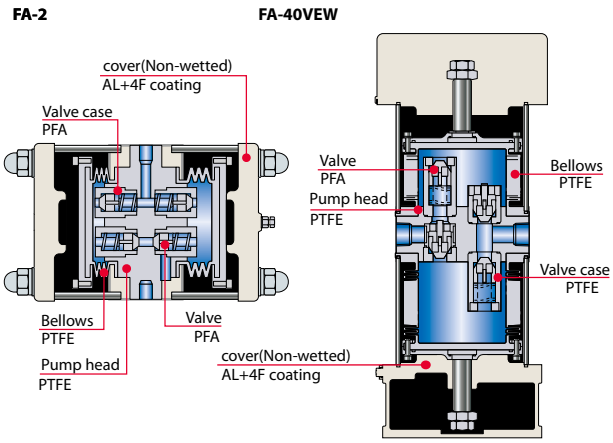
Designs for circulating moderate temperature fluids

FA-2

FA-40VEW

- There are two standard models available In the FA series; the FA-2E, a horizontal type for lower flow requirements and the FA-40VEW, a vertical type for a higher flow rates. A typical application for the FA-2E is in aspray system for single wafer processing while the FA-40VEW is suitable for batch cleaning of 200/300 mm wafers.
- The FA-40VEW is designed for a long service life and uses a robust bellows design suitable for continuous operation at higher discharge pressures.
- Discharge rates can be easily monitored and controlled when used with a dedicated controller
- The pump utilizes a built in proximity sensor driven control system to switch an external air solenoid valve. Leak sensors are also included as standard equipment.

Construction and materials



Pump identification

FA - 2 E-1 - 01

Series code
Iwaki pneumatic drive bellows pump
FA series

Pump size
2 : Max. discharge capacity 2L/min
40 : Max. discharge capacity 40L/min

Electrodes : Leak detector

Special specification
Without code : Standard specification
01 : Special specification (01,02 ...)

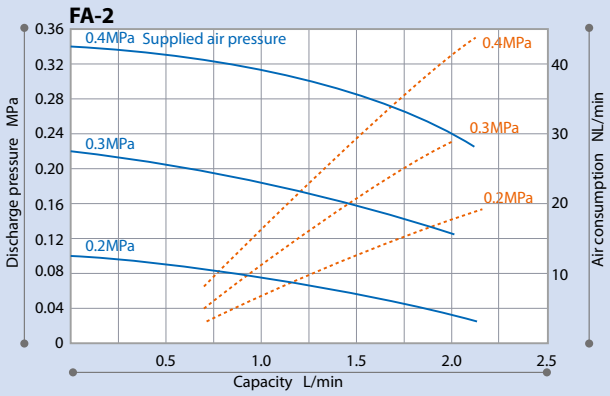
Pump drive system
■ **FA-2**
-1 : Air pulse timer switching valve system+Electrodes
E-1 : Controller system+Electrodes
■ **FA-40**
VEW : Controller system+Electrodes
Pump head and bellows welded into one piece

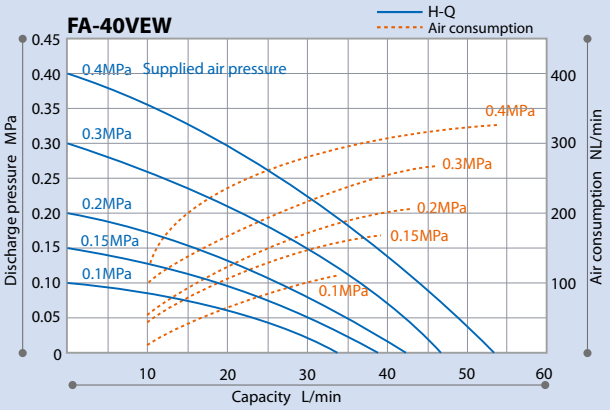
Specification

Model		FA-2E-1	FA-40VEW
Max. discharge capacity	L/min	2	40
Max. supplied air pressure	MPa	0.4	
Liquid temperature range	˚C	5 -100	
Max. air consumption	NL/min	50	200
Max. stroke speed	spm	150	80
Pump connection size		Rc1/8	Rc1
Supplied air connection size		Rc1/4	Rc3/8
Ambient temperature	˚C	0 - 40	
Drive system		By proximity switch	

Note: Max. discharge capacity shows when pumping clear water at 20˚C.

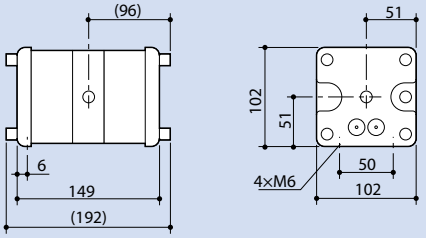
Perfomance curves



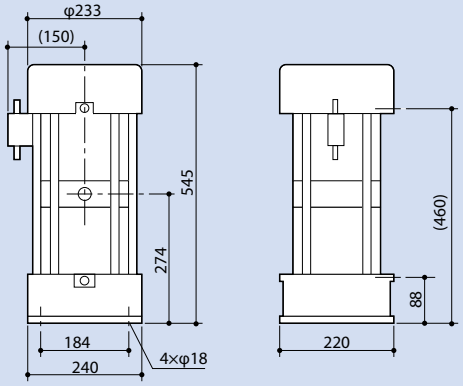


Dimentions in mm

FA-2



FA-40VEW



Option

■ Dampener

The Installation of a dampener on the discharge side of the pump will reduce pulsation and prevent particle release through filters as well as from pipe vibration.

Pulse dampeners PD-H (for wet use)

For the FS-H only

- A low cost and compact dampener.
- Liquid inside the bellows can be easily drained.
- A leak sensor is included as a standard.

Pulse dampeners PD-H1

FF | FF-H | FA

- No automatic pressure adjustment.
- The PD-H1 is a medium-pressure design for use with FF, FF-H and FA pumps.

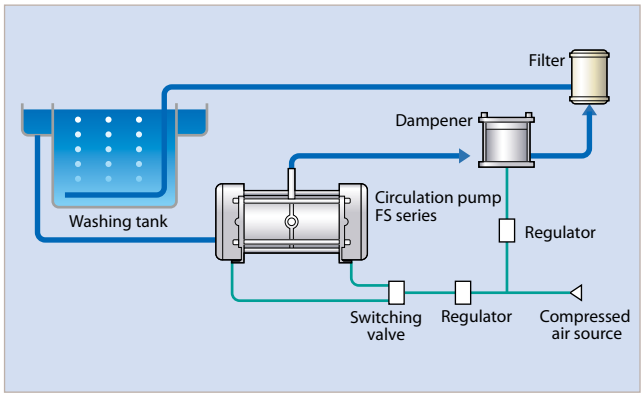
* Models with leak sensors are available through special order.

Specification

Model	PD-15H		PD-30H		PD-60H	
Applicable pumps	FS-15HT1/T2		FS-30HT1/T2		FS-60HT1/T2	
Max. supplied air pressure MPa	5 -100	101-180	5 -100	101-180	5 -100	101-180
Liquid temperature range ℃	0.3	0.2	0.3	0.2	0.3	0.2
Supply air pressure range MPa	0.15-0.3	0.15-0.2	0.15-0.3	0.15-0.2	0.15-0.3	0.15-0.2
Pulsation pressure range* MPa	0.04 or less					
Connection size	1/2" PFA tube		3/4" PFA tube		φ25×φ22mm PFA tube	
Supply air connection size	Rc1/8					
Wet-end materials	PTFE , PFA					

*Liquid viscosity should be 50mPa•s or below.
Note : The damper cannot be used at a pressure above the level specified for the pump.

Example of installation



Automatic dampeners PDA-H1/WB/W

FS-H | FW | FW-H | FF | FF-H | FA

- Automatic pressure adjustment minimizes downtime, eliminates manual adjustments.
- Liquid inside the bellows can be easily drained. (PDA-WB/W model)
- The PDA-H1 is a medium pressure design for use with the FF, FF-H, and FA pumps. The PDA-WB is a high-pressure design suitable for use with the FW, FW-H, and FS-H pumps. Typical applications include drug delivery and dispensing.
- The PDA-WB/W includes a leak sensor as standard. (For the PDA-H1, a leak sensor is available through special order.)
- For the PDA-WB/W, only the specified liquid pipe joint can fit the model. Please contact us before use to check if your joint is applicable.

Automatic dampeners PDA-100WBN

For the FS-100NF only

- Automatic pressure adjustment minimizes downtime, eliminates manual adjustments.
- Dampener pressure is automatically adjusted to the minimum pulse pressure even if the pump discharge load changes due to a clogged filter. The unit prevents particles being released from the filter and the pimping vibration.
- A leak sensor is included as a standard.

Specification

Model		PDA/PD-10H1	PDA/PD-20H1	PDA/PD-40H1
Applicable pumps		FF-10B/CT1	FF-20B/CT1 FF-20HT	FA-40VEW FF-40HT1
Liquid temperature range	˚C	20 -180		
Max. supplied air pressure	MPa	0.3		0.4
Pulsation pressure range	MPa	0.04 or less		
Connection size		1/2" PFA tube	3/4" PFA tube	ø25×ø22mm PFA tube
Supply air connection size		Rc1/4		
Wet-end materials		PTFE, PFA		

Model		PDA-20WB/W		PDA-40WB/W	PDA-80WB/W
Applicable pumps		FW-20/FW-20H/ FS-15/FS-30		FW-40/FW-40H/ FS-60	FW-80
Liquid temperature range	˚C	10 -100	101-150	151-180	10 - 80
Max. supplied air pressure	MPa	0.5	0.3	0.2	0.5
Pulsation pressure range	MPa	0.06 or less			
Connection size		ø19 x ø16mm PFA tube		ø25 x ø22mm PFA tube	
Supply air connection size		Rc1/4			
Wet-end materials		PTFE, PFA			

Note 1: The damper cannot be used at a pressure above the level specified for the pump.
Note 2: The range of pulse pressures depends on conditions of usage. For further information, please call us.
Note 3: For the PDA-WB, some joints are not applicable. Please contact us for details.

Model		PDA-100WBN
Applicable pumps		FS-100NF
Max. supplied air pressure	MPa	0.7
Liquid temperature range	˚C	5 - 60
Supply air pressure range	MPa	0.2 - 0.7
Pulsation pressure range*	MPa	0.15 or less
Connection size		25A
Supply air connection size		Rc 1/4
Wet-end materials		PTFE

*Liquid viscosity should be 50mPa•s or below.
Note 1: The max. liquid pressure is obtained when a discharge line is shut off.
Note 2: Contact us for the special damper for the FS-80NT.

■ Quick Exhaust Valve

When installed on the air exhaust lines at the pump the exhaust valve will help to reduce pulsation and prevent particle release from the filter as well as from pipe vibration.

QEV

Quick exhaust valves should be installed between the pump and the external solenoid valve. This helps to prevent corrosion of the solenoid valve from return air. It also reduces exhaust resistance to allow the bellows to move smoothly through each cycle.

Specification

Model	Connection size	Applicable pumps
QEV-8V	Rc1/4	FW-20/20H, FF-10/20/20H, FA-2, FS-15/30
QEV-10V	Rc3/8	FW-40/40H, FF-40H, FA-40, FS-60/80N

*Please contact us for quick exhaust valves for FS-100HT and the FS-100NF.

■ Pump Controller/Driver

The external solenoid valve is switched in response to signals from the built-in proximity sensors on each side of the bellows to ensure reliable operation of the pump. Two controller options are available along with one driver option.

Pump controller FDC-1

FS-H | FS-N | FA | FW | FW-H | FF | FF-H

- The pump discharge rate can be monitored and maintained at a constant level by connecting an electric air regulator (optional) to the pump air supply line. This enables stable flow and filtering even when the discharge load varies due to Increased filter resistance. In addition, the service life of the bellows will be maximized because the difference between its internal and external pressures is kept to a minimum.
- The controller can monitor the flow rate, the number of strokes, and the total count.
- The unit operates either in the AUTO mode using external signals or in the MANU mode for manual control.
- The flow rate can be set at two different values as desired.
- In addition to the sensor mode using the proximity sensors, the timer mode is included as a standard feature. This enables continued pump operation in the timer mode in case of the failure of a proximity sensor.
- The unit is equipped with various alarm displays and output functions, including leak alarm and a pump malfunction alarm.

Specifications

General specification	Power source	DC24V ±10%
	Power consumption	24VA max.
	Ambient temperature	0 – 50˚C
	Working atmosphere	Without corrosive gas in surrounding areas
Input specification	Start, Alarm reset	No-voltage contact or open collector Voltage ON: 3V maximum Voltage OFF: 18V maximum
Output specification (external output)	Leak alarm Pump malfunction alarm Life alarm First alarm	Output form: NPN open collector Switching capacity: DC24V 0.4A
Dimensions in mm	W158 x D152 x H48	

■ Chemical replenishing system

CFD-1T-B

With a resolution of up to 1.0mL/shot fine dispense volumes can be achieved

■ The resolution of the CFD-1T-B has been greatly improved compared to our existing models. The minimum flow of 1mL/shot offers greater accuracy in chemical condensation control that is required in the wafer cleaning process. The CFD-1T-B always feeds the correct quantity of chemical without overshot eliminating excess liquid wastage. In addition, the anti-siphon mechanism prevents unintentional siphoning.

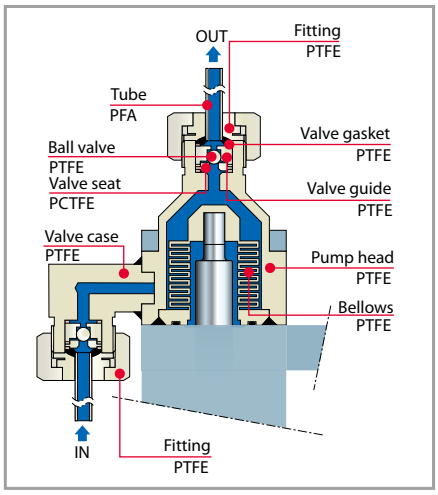
■ The fluoroplastic wet end (PTFE, PFA, PCTFE) is capable of handling strong acids, alkalines and hydrogen peroxide, typical chemicals required for semiconductor processing. PTFE, PFA, PP, PVC external parts and PTFE coated screws provide additional protection against chemical attack from harsh environments.

■ Adjustment of the stroke length to give between 1.0-2.7mL/shot is simple by removal of the bottom cover (Factory default is 1.0mL/shot).

■ Every unit is equipped with a leakage sensor to immediately detect a leak.

*An 8 mL/shot type is also available. Please contact us for more information.

Construction and materials

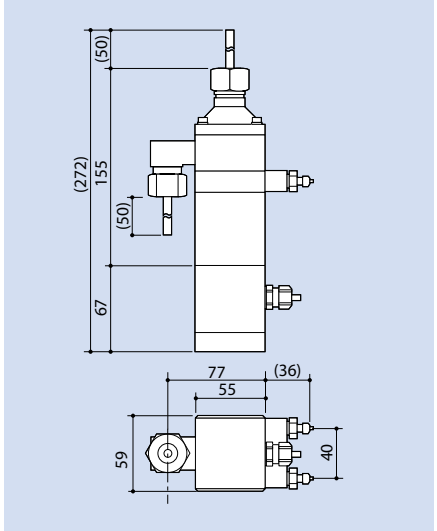


Specifications

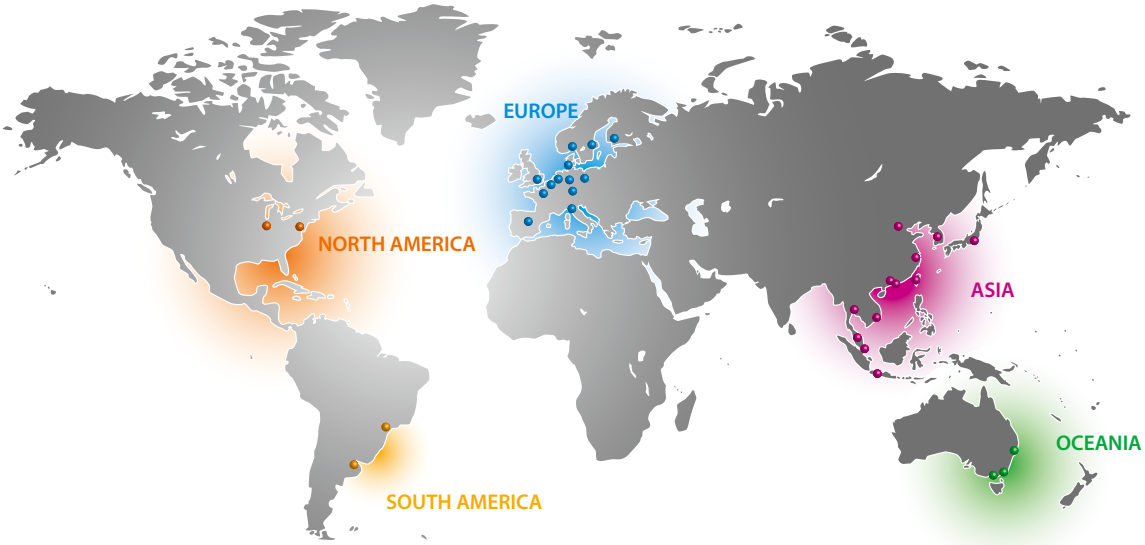
Pump specification	Application		Chemical replenishing
	Discharge capacity	mL/shot	1mL/shot
	Max. discharge pressure	MPa	0.05MPa
	Liquid temperature range	˚C	20 - 60˚C
	Max.stroke speed	spm	30spm
	Max. supply air pressure	MPa	0.15 - 0.3MPa
	Max. air consumption	NL/min	2.5NL/min
	Wet end materials		PTFE, PFA, PCTFE
	Liquid port bore		1/4"PFA tube (6.35×4.35)
	Supply air port bore		Rc1/8
	Weight	kg	1.1kg
Photosensor specification	Model		Transmission type micro photo sensor
	Power voltage		5 - 24V DC±10%
	Output mode		NPN transistor open collector
	Allowable current		50mA or below
	Cord		5m PVC four-core cable (Outer dia.5.2mm) with 0.5 - round teminal

*Please request a separate drawing for external dimensions.

Dimentions in mm



IWAKI World-wide Network



IWAKI Saitama plant

JQA-EM4848 JQA-1173

IWAKI Miharu plant

JQA-EM4848 JQA-1173

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Caution for safety use:
Before use of pump, read instruction manual carefully to use the product correctly.

Actual pumps may differ from the photos. Specifications and dimensions are subject to change without prior notice. For further details please contact us.

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