IWAKI

IWAKI PNEUMATIC DRIVE LOW PULSATION BELLOWS PUMPS

FLP-60W

Solutions for chemical handling applications

The FLP-60W reduces discharge pulsation without the use of a separate dampener, reducing the total cost of installation.

The unique design of the Iwaki FLP-60W bellows pump achieves low pulsation and high pressure sustaining capability. This produces a stable discharge capacity and pressure without the use of a dampener. Reduced air consumption up to 30% compared to our previous models is also achieved.

Low pulsation

The unique drive mechanism of the system determines and maintains optimum movement of the bellows and supply-air switching to give minimum discharge pulsation.

Reduction of air consumption

Reduced air consumption up to 30% compared to our previous models is achieved with no reduction of pump performance.

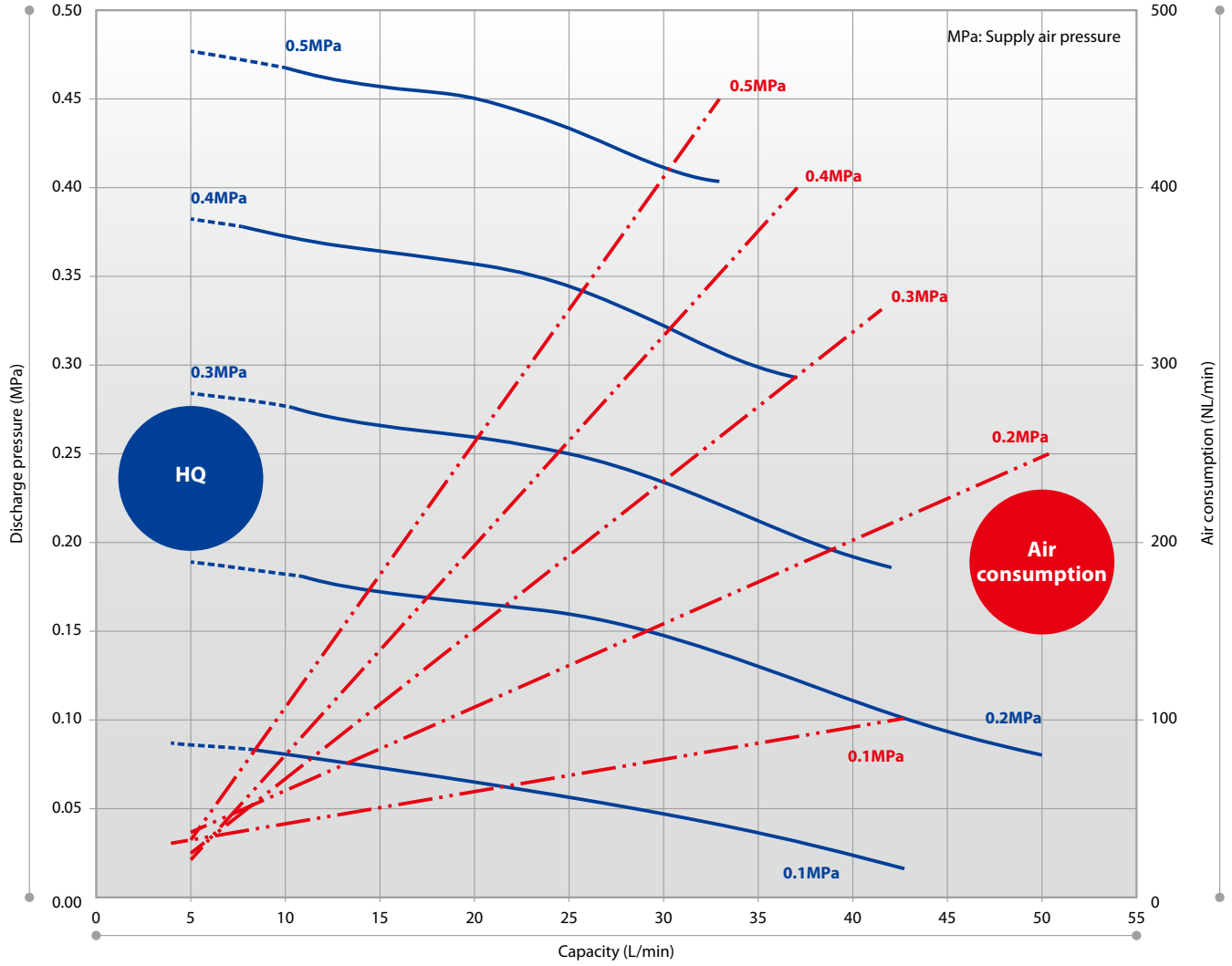
High sustained pressure capability

The optimum bellows movement improves pressure sustaining capability to maintain stable discharge capacity and pressure under frequent load change, especially in single wafer processing.

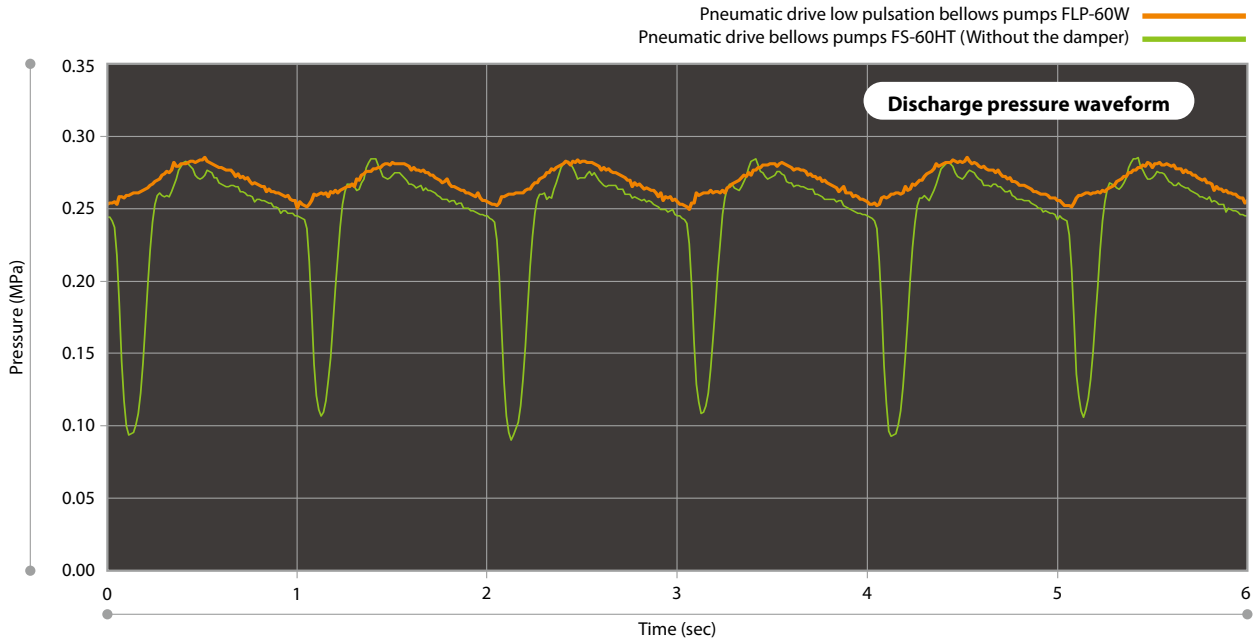
Elimination of a dampener

The pump works without the use of a dampener, saving space inside equipment & installation costs such as fluoroplastic joints. The total weight/size of the equipment is also minimized.

Performance curves



Compared to existing pumps



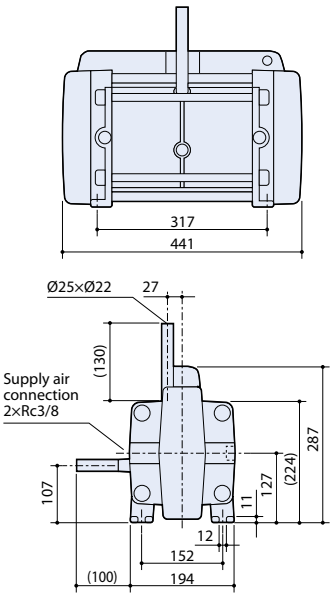
Sharp drops of discharge pressure are minimized, reducing the pulsation compared to existing pumps,
Suction pressure drops are at the same level as existing pumps, but the pulsation width has been reduced.

Specification of pumps

Model		FLP-60W				
Max. discharge capacity[Note1]	L/min	50				
Max. pulsation width	MPa	0.06				
Liquid temperature range (Max. supply air pressure)	°C(MPa)	5 to 100 (0.5), 101 to 150 (0.4), 151 to 180 (0.3)				
Supply air pressure range	MPa	0.41 to 0.5	0.31 to 0.4	0.21 to 0.3	0.11 to 0.2	0.1
Max. stroke rate	spm	120	140	155	160	
Max. air consumption	NL/min	464	419	338	252	116
Max. viscosity	mPa•s	50				
Suction lift[Note2]	m	1				
Ambient temperature/ humidity	°C/%RH	0 to 40 (non-condensing) / 30 to 60 (non-condensing)				
Storage temperature/ humidity	°C/%RH	-10 to 60 (non-condensing) / 20 to 70 (non-condensing)				
Installaition location		Do not install the pump Out of doors. / In a dusty environment. / Under vibration or impact. Where the pump can get wet with water or oil. / In a corrosive atmosphere.				
Explosion-proof		This product is not explosion-proof (Do not install the pump under flammable explosive atmosphere)				
Operation rating		Intermittent / continuous				
Driving method		Drive air external change over by force				
Pump connection size	mm	Ø25×Ø22 tube				
Supply air connection size		Rc3/8				
Purge air port		Ø6 onetouch joint				
Mass	kg	22				

Note1: The max. discharge capacity is based on pumping clean water at an ambient temperature and the supply air pressure of 0.2MPa.
Note2: The suction lift is based on pumping clean water at an ambient temperature and the maximum spm.

Dimensions in mm



The same dimensions as the FS-60HT2 in width, depth, and base dimensions as well as inlet & outlet locations allows for simple pump replacement.

Pump controller

LPC-1

Specification

Operating conditions	Power voltage		24VDC (-5% to +10%)
	Max. power consumption	LPC-1	0.11A
		24VDC signal	1.8A
	Ambient temperature / humidity		0 to 50°C (non-condensing) / 5 to 90%RH (non-condensing)
	Storage temperature / humidity		-10 to 60°C (non-condensing) / 5 to 90%RH (non-condensing)
	Installaition location		Do not install the controller Out of doors. / In a dusty environment. / Under vibration or impact. Where the pump can get wet with water or oil. / In a corrosive atmosphere.
	Operation rating		This product is not explosion-proof (Do not install the pump under flammable explosive atmosphere)
	Mass		1.3kg
Analogue input	input voltage	Displacement sensor	0 to 10V
		Regulator (Pressure sensor)	1 to 5V
		Leak sensor (Resistance range)	0Ω to infinity Detectable at 15kΩ or below (Initial resistance: 10MΩ or more)
	Allowable input voltage		0V (MIN) 15V (MAX)
Digital input	Input voltage		24V
	Input current		5mA (MIN) / 10mA (MAX)
	Insulation		Photocoupler insulation
Digital output	Output type		Open collector
	Max output current		SV ch1/ch2: 300mA, Others: 50mA
	Max. applied voltage		30V
	Insulation		Photocoupler insulation

European Norm (EMC directive): This product conforms to EN61326-1: 2006 Class A. Observe the EMC requirement, or malfunction or damage of the product may result.

Quick exhaust valve

QEV

Specification

Connection bore	QEV-10V: Rc3/8, QEV-15V: Rc1/2	
Supply air pressure range	0.1 to 0.5 MPa	
Ambient temperature	5 to 40°C	
Fluid name	Compressed air	
Fluid temperature	5 to 40°C	
Effective cross-section area (CV value)	QEV-10V	IN OUT 29mm² (1.5) OUT EXH 33mm² (1.8)
	QEV-15V	IN OUT 69mm² (3.8) OUT EXH 82mm² (4.6)
Oil supply	N/A	
Mounting position	N/A	

- The QEV installed in between the pump and solenoid valve prevents corrosion of the solenoid valve by return air.
- The QEV reduces the resistance of air exhaust to smooth the bellows motion.

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( )Country codes

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.

Legal attention related to export.
Our products and/or parts of products fall in the category of goods contained in control list of international regime for export control.
Please be reminded that export license could be required when products are exported due to export control regulations of countries.

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