

S18



Micro Diaphragm Liquid Pump

Datasheet



Highlights

- Up to 1 Bar output pressure
- Driven by high-end BLDC motor
- High sealing and pressure resistance
- Long service life under max load
- Industrial-grade reliability
- Excellent corrosion resistance
- Reliable self-priming
- Compact size

Applications

- Printing
- Laboratory
- Medical equipment
- Analytical instruments

6K hours
lifetime test

PERFORMANCE DATA

Model	Voltage (V DC)	As Liquid Pump				As Gas Pump			
		Max. Load Current (A)	Free Flow Rate (mL/min)	Max. Pressure (kPa)	Suction Height (mH2O)	Max. Load Current (A)	Max. Gas Flow rate (mL/min)	Max. Vacuum (-kPa)	Max. Pressure (kPa)
Material ES	Diaphragm:EPDM Valves:EPDM Pump Head: PPS								
S18LS-BL	5/12	0.38/0.17	240	50	3.0	0.19/0.10	290	35	55
S18LS-BA	5/12	0.43/0.18	230	100	3.0	0.24/0.11	260	35	55
S18LS-DC	5/12	0.31/0.15	220	100	3.0	0.16/0.07	230	35	55
Material KS KV	Diaphragm:PTFE Valves:FFKM Pump Head: PPS(KS) or PVDF(KV)								
S18LS-BL	5/12	0.45/0.22	160	50	3.0	0.23/0.12	200	35	55
S18LS-BA	5/12	0.50/0.20	190	100	3.0	0.30/0.11	200	35	55

This parameter is a preliminary calibration parameter before the official release of the product, and may be further revised with subsequent product releases, and is for evaluation and reference only

PERFORMANCE DATA

Model	Voltage (V DC)	As Liquid Pump				As Gas Pump			
		Max. Load Current (A)	Free Flow Rate (mL/min)	Max. Pressure (kPa)	Suction Height (mH2O)	Max. Load Current (A)	Max. Gas Flow rate (mL/min)	Max. Vacuum (-kPa)	Max. Pressure (kPa)
Material ES	Diaphragm:EPDM Valves:EPDM Pump Head: PPS								
S18MS-BL	5/12	0.27/0.13	220	50	2.0	0.18/0.08	190	24	35
S18MS-BA	5/12	0.33/0.15	200	100	2.0	0.24/0.11	180	24	35
Material KS KV	Diaphragm:PTFE Valves:FFKM Pump Head: PPS(KS) or PVDF(KV)								
S18MS-BL	5/12	0.33/0.15	150	50	2.0	0.21/0.10	150	24	35
S18MS-BA	5/12	0.38/0.15	160	100	2.0	0.27/0.10	150	24	35
This parameter is a preliminary calibration parameter before the official release of the product, and may be further revised with subsequent product releases, and is for evaluation and reference only									

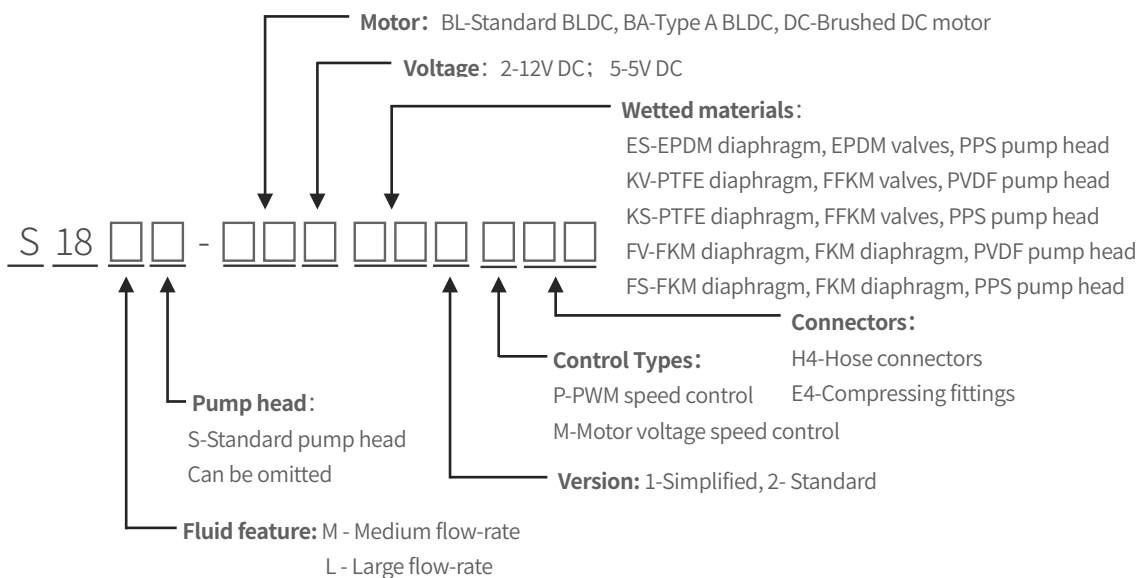
CONFIGURATION OPTIONS

Material Options	Default	Optional Items	
Pump Head	PPS	PVDF	
Diaphragm	EPDM	PTFE	FKM
Valves	EPDM	FFKM	FKM
Motor	Standard BLDC	Type A BLDC	DC Motor
Connector Options			
	Hose connector	Compression fittings	
Pump head Options			
	Standard pump head	Dual diaphragm pump head	

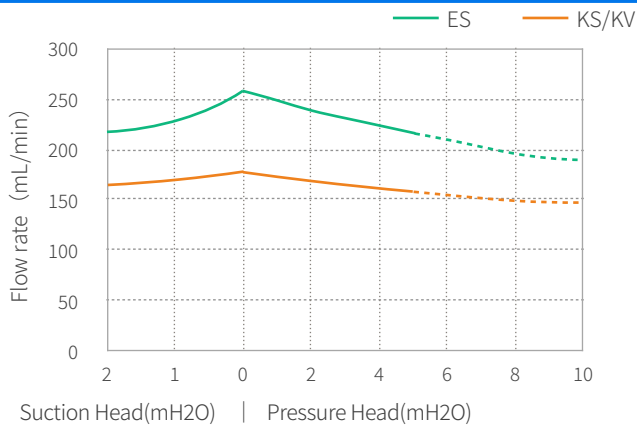
RELIABILITY DATA

Models Versions	S18	
	Simplified Equipped with DC motor	Standard Equipped with BL/BA motor
Fully Loaded Lifetime (hrs)	1000*	2000*
Unloaded Pumping Lifetime (hrs)	2000*	6000*
Motor Lifetime (hrs)	2500*	8000
Test conditions	In a clean and non-corrosive laboratory, the pump is fully loaded (pumping water at the highest rated pressure) or unloaded (continuous pumping water), and runs continuously around the clock; ambient temperature: 5°C~33 °C, relative humidity: 50%-85%, fluctuates with the climate. *Represents design life target, actual product life is being tested	
Working Condition		
Operating temperature	Permissible ambient temperature is 0°C~50°C, it is not suitable to be exposed to the sun, and it should work in a clean and ventilated environment	
Medium	Permissible temperature of the liquid medium is 5°C~50°C and gaseous media is 0°C~50°C, the transferring gas cannot contain solid particles or oil mist. It is not allowed to pump oily liquid and high viscosity liquid.	
Wetted materials	EPDM, PPS as default, a wide range of corrosion-resistant materials are available. tolerance to alcohol, acid, alkali, etc. (except strong acid, concentrated acid, lipids, benzene, gasoline, etc.)	

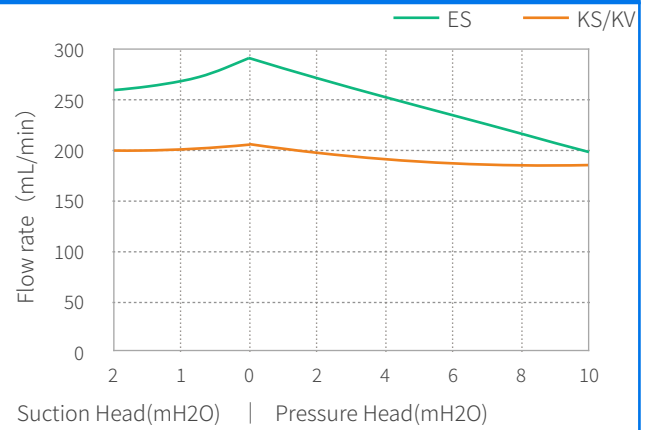
S18 MODEL KEY



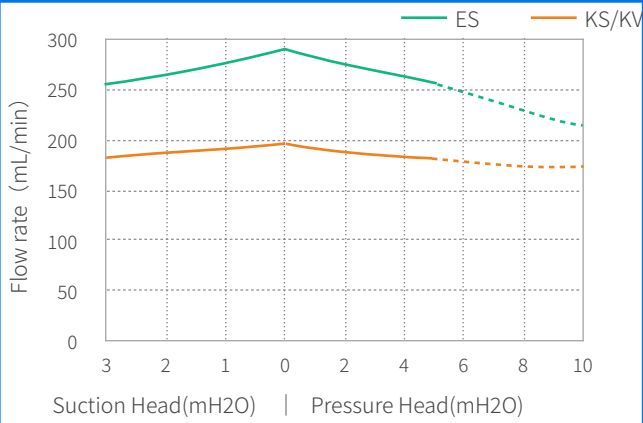
S18MS WITH STANDARD BLDC MOTOR FLOW CURVES



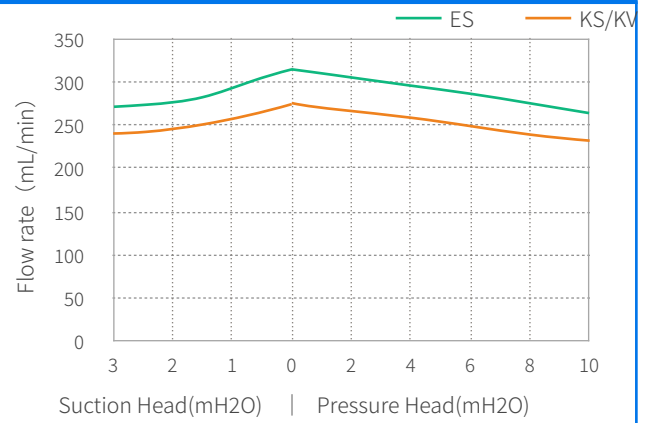
S18MS WITH TYPE A BLDC MOTOR FLOW CURVES



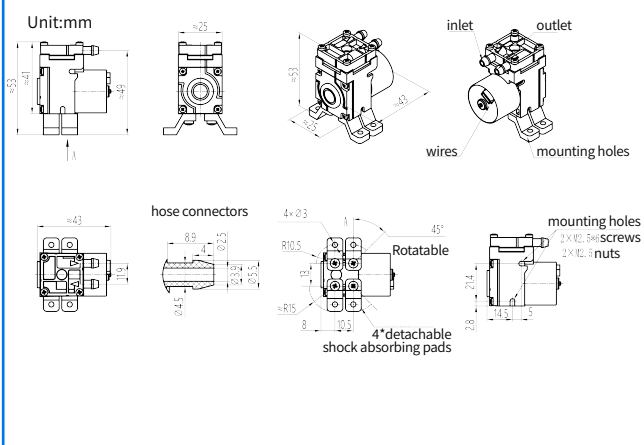
S18LS WITH STANDARD BLDC MOTOR FLOW CURVES



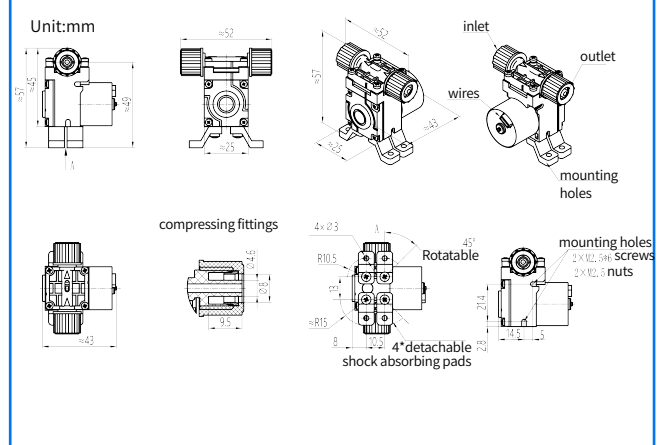
S18LS WITH TYPE A BLDC MOTOR FLOW CURVES



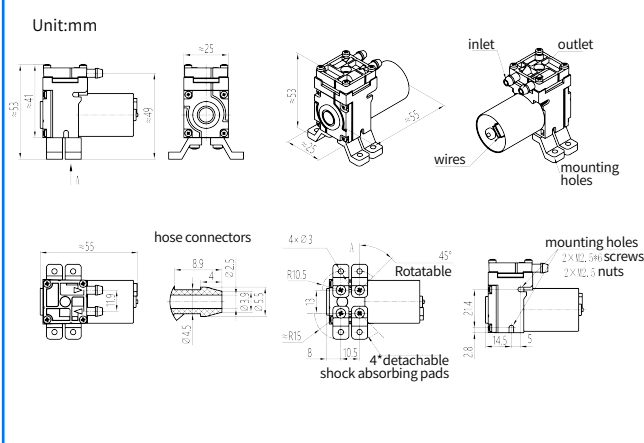
S18 WITH STANDARD BLDC MOTOR & H4 HOSE CONNECTORS DIMENSIONS



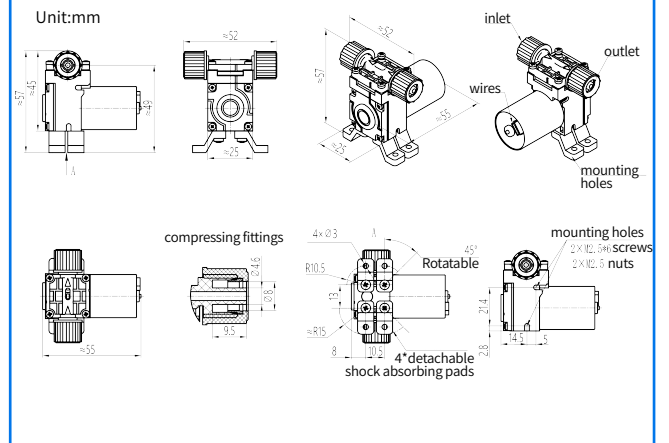
S18 WITH STANDARD BLDC MOTOR & E4 COMPRESSING FITTINGS DIMENSIONS



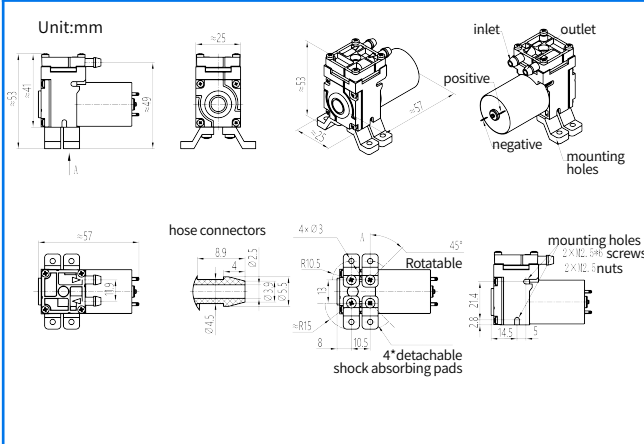
S18 WITH TYPE A BLDC MOTOR & H4 HOSE CONNECTORS DIMENSIONS



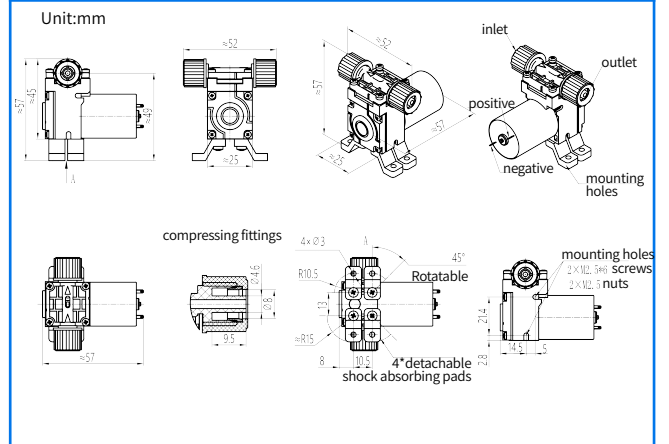
S18 WITH TYPE A BLDC MOTOR & E4 COMPRESSING FITTINGS DIMENSIONS






S18 WITH BRUSHED DC MOTOR & H4 HOSE CONNECTORS DIMENSIONS



S18 WITH BRUSHED DC MOTOR & E4 COMPRESSING FITTINGS DIMENSIONS



ACCESSORIES		
Descriptions	Illustration	Function
Shock-isolation mounting feet		Reduce the impact of vibration on the equipment during the operation of the pump. This accessory comes with the pump*4
Filter		The 80-mesh filter protect both pumps and other upstream instrumentation and hydraulic circuits against particulate, crystals and fibers . It is recommended to replace it regularly. This accessory comes with the pump*1
Check valve		Enhance the cut-off capability of the gas circuit system to ensure one-way gas flow. This accessory can be purchased on demand
Back pressure relief valve		Back pressure safety valve, when the back pressure exceeds the safety range, it will open to relieve the pressure to protect the the liquid system and the pump from overpressure damage . This accessory is available for purchase on demand
Manual control valve		It can be used to manually adjust the gas flow rate, pressure and vacuum. This accessory can be purchased on demand
DC power adapter		220V AC to DC switching power supply, this accessory can be purchased on demand



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