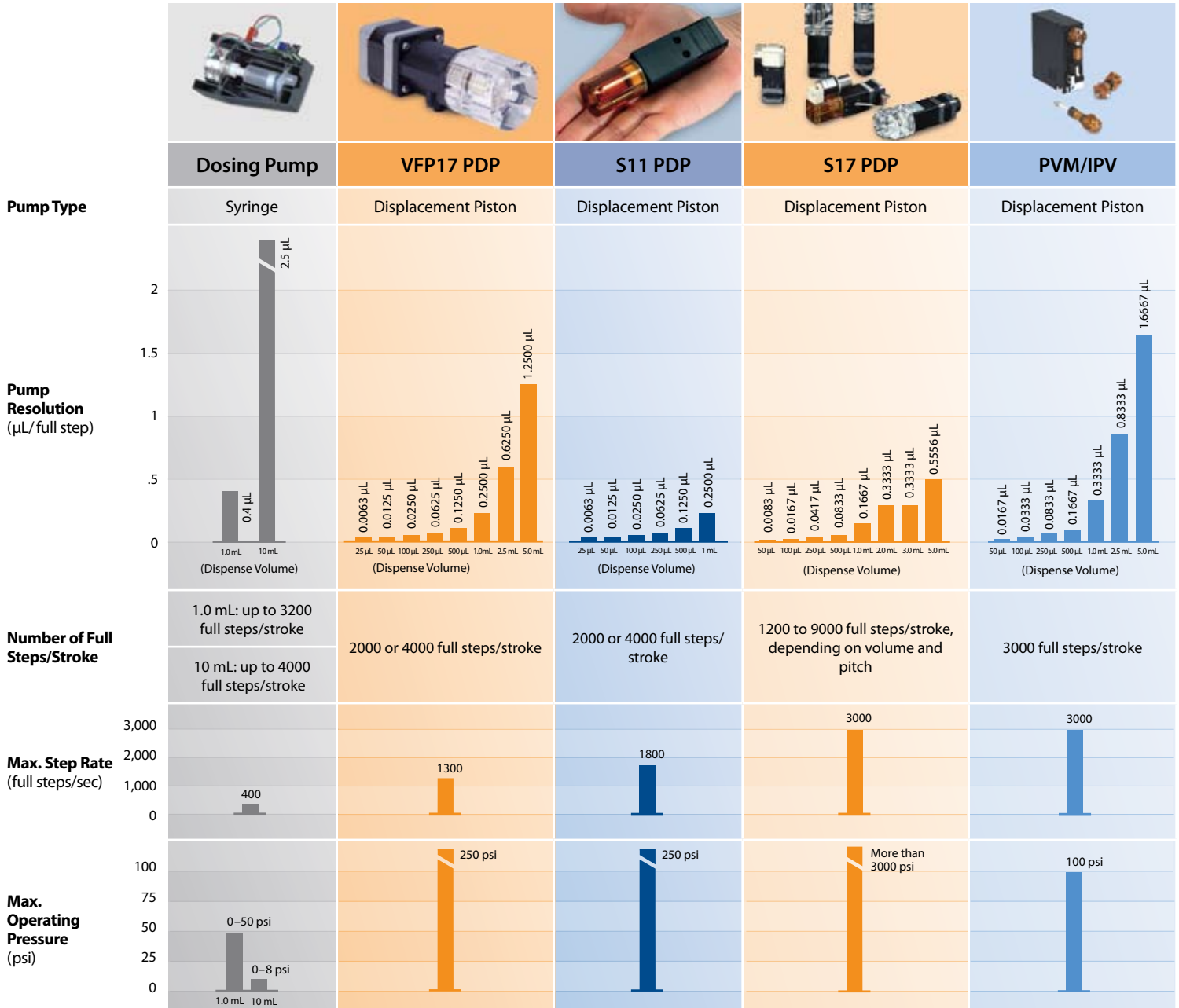





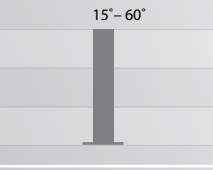
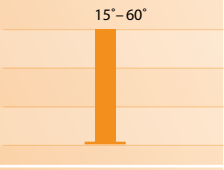
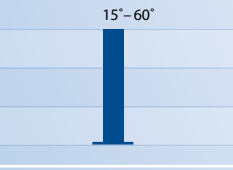
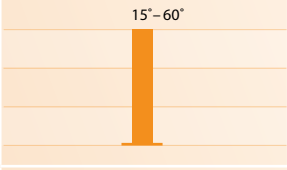
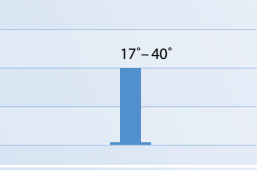
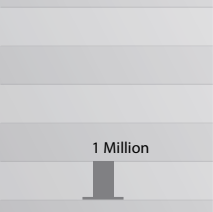
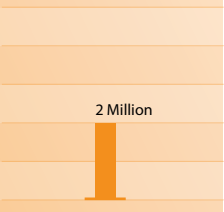
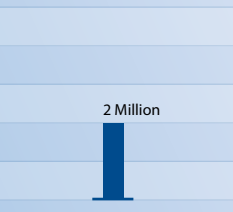
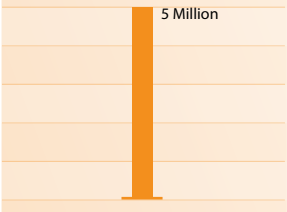
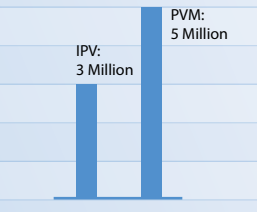


Precision Dispense Pumps from Sapphire Engineering

We have the pump that's right for your application



					
	Dosing Pump	VFP17 PDP	S11 PDP	S17 PDP	PVM/IPV
Accuracy	±2%	Less than ±1%	Less than ±1%	Less than ±1%	Less than 1%
Precision	2% CV (nominal)	100% dispense: <0.2% CV 10% dispense: <0.5% CV 1% dispense: <2% CV	100% dispense: <0.2% CV 10% dispense: <0.5% CV 1% dispense: <2% CV	100% dispense: <0.2% CV 10% dispense: <0.75% CV 1% dispense: <1.5% CV	100% dispense: <0.2% CV 10% dispense: <0.5% CV 1% dispense: <2% CV
Wetted Materials	Piston: PTFE Barrel: Polypropylene Seal: Neoprene, Viton, Teflon, or Polyethylene	Standard: Acrylic, UHMWPE, Viton, TZP Ceramic. Custom wetted materials available.	Standard: Ultem, UHMWPE, Viton, TZP Ceramic. Custom wetted materials available.	Standard: Ultem, UHMWPE, Viton, TZP Ceramic. Custom wetted materials available.	Standard: Ultem, UHMWPE, Viton, TZP Ceramic. Custom wetted materials available.
Seal Wash Availability	Yes - An option on 10 mL	Yes - As an option on all models	Yes - As an option on all models	Yes - As an option on all models	Yes - As an option on all models
End of Stroke (Home) Detection	Yes - Fully aspirated position	Yes - Fully dispensed position	Yes - Fully dispensed position	Yes - Fully dispensed position	Yes - Fully dispensed position
Fitting Connections	Standard: 1/4–28	Standard: 1/4–28. Custom ports available.	Standard: 1/4–28. Custom ports available.	Standard: 1/4–28. Custom ports available.	Standard: 1/4–28. Custom ports available.
Stepper Motor Specifications	7.5° bipolar stepper motor	1.8° bipolar stepper motor	1.8° bipolar stepper motor	1.8° bipolar stepper motor	1.8° bipolar stepper motor
Optical Encoder	No	Optional	Optional	Optional	Standard
Operating Temperature					
Anticipated Life					
Self Priming	Yes	Yes	Yes	Yes	Yes
Controller Board	Optional item	Optional item. Must be purchased separately.	Optional item. Must be purchased separately.	Optional item. Must be purchased separately.	Standard on all models. RS232 and RS485. Compatible with Cavro XP-3000 software commands.
Customization	Semi-customizable; possibilities include exchanging wetted materials, drive mechanics, etc..	Semi-customizable. Pump head can be modified to incorporate valves, manifolds, and unique port configurations.	Semi-customizable. Pump head can be modified to incorporate valves, manifolds, and unique port configurations. Custom stroke and piston sizes available.	Fully customizable; for example, this could include incorporating the pump with valves and a manifold, adding pressure transducers, etc. Custom stroke and piston sizes available.	IPV is semi-customizable.