

NXP Series Stepper Motor Pumps and NSP Series Solenoid Pumps

PRODUCT BROCHURE



Where Innovation Flows



ELECTRONIC METERING PUMPS



Neptune™ Introduces NXP Series Stepper Motor Pumps and NSP Series Solenoid Pumps

Neptune™ is pleased to announce the availability of the new Pump Series – NXP Series Stepper Motor Pumps and NSP Series Solenoid Pumps available in manual, analog, and pulse control. Featuring capacity ranges from 0.09 gph (0.34 L/h) to 8.1 gph (30.66 L/h) and back pressure capabilities of 43 psi (3 bar) to 232 psi (16 bar), NXP and NSP Series are ideal for chemical applications, requiring reliable and accurate dosing. NXP and NSP Series pumps are available with a variety of liquid head materials: PVC, PVDF, Polypropylene, Stainless Steel*, and Acrylic* materials.

*only available for certain models



WATER/WASTEWATER



OIL AND GAS



BEVERAGE & FOOD PROCESSING



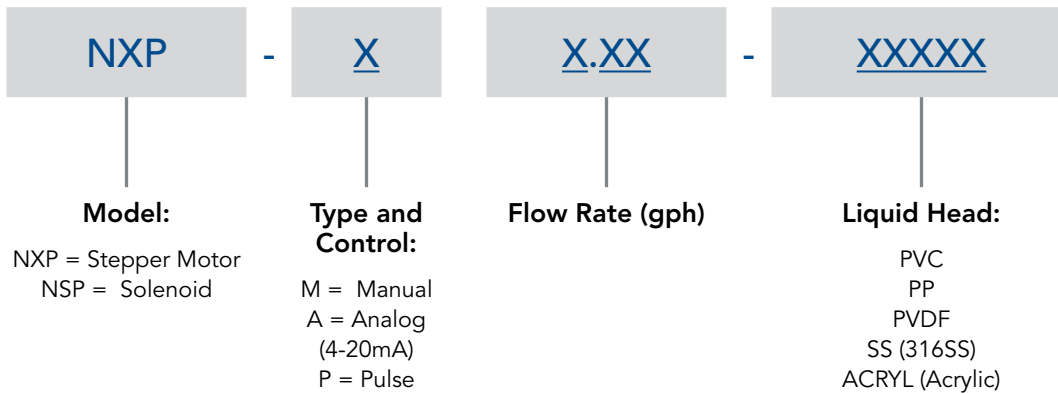
BOILER FEEDWATER CONDITIONING



PULP INDUSTRY



Nomenclature



Materials of Construction

Head	Ball	Seat	Seals	Diaphragm
PVC	Ceramic	PVDF	FKM	PTFE
PP	Ceramic	PVDF	FKM	PTFE
PVDF	PTFE	PVDF	FKM	PTFE
SS (316SS)	SS (316SS)	SS (316SS)	FKM	PTFE
ACRYL (acrylic)	Ceramic	PVDF	FKM	PTFE

NXP Series – Neptune Stepper Motor Pump

Stepper motor-driven metering pumps are particularly suitable for highly accurate, reproducible applications due to their design. Most chemicals can be safely fed into the respective processes using these pumps.

Available in six sizes, the compact stepper-motor pump, coupled with its intelligent drive concept, combines the big advantages of a solenoid-driven metering pump with the precision of a motor-driven metering pump.

Neptune's NXP Series drive is fully adjustable. The stepper-motor with its wear-free tooth belt drive, ensures a particularly homogeneous and gentle dosing process. Pressure and suction strokes can be performed at different speeds. This produces a constant supply stream, providing low-pulsation dosing. To adapt the dosing performance, the stroke frequency can be manually adjusted across the range from 0 to 100%.

As a plug and play dosing pump with a universal power supply unit, the pump is ready for immediate, unlimited, and international applications. As an added flexible feature, the NXP Series can be mounted on the wall in three different positions – upright, left-oriented or right-oriented – without further auxiliary equipment.

FEATURES & BENEFITS

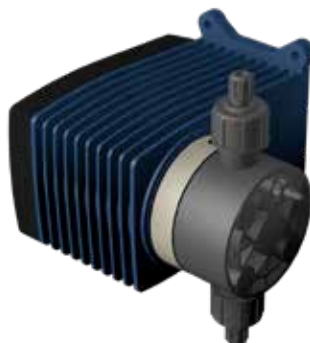
- Capacity range to 8.10 gph (30.66 L/h), up to 232 psi (16 bar) (290 psi (20 bar) for PVC)
- Wide range power supply 110 ... 240 VAC, -10% / +5%, 50/60 Hz, 25 W
- Infinitely variable stroke frequency from 0 to 100%
- Calibration functionality
- Fully controllable stepper-motor drive
- Double-ball valves ensure accurate dosing
- Materials: PVC, PP, PVDF and Stainless Steel
- Compact design, low space requirement
- Integrated dosing head venting device
- Wall and floor mounting possible without a bracket
- Supplied with connection sets (plastic version)



MOUNTING POSITIONS



Upright (Floor)



Right-Oriented (Wall)



Left-Oriented (Wall)

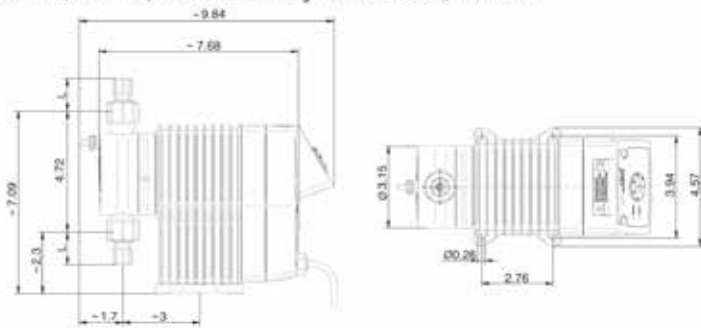
NXP Series SELECTION CHART

NXP-M Series		NXP-M68	NXP-M140	NXP-M285	NXP-M375	NXP-M540	NXP-M810
Flow Rate at Max. Pressure	gph (L/h)	0.68 (2.57)	1.40 (5.30)	2.85 (10.79)	3.75 (14.20)	5.4 (20.44)	8.10 (30.66)
Max. Back Pressure (discharge)	psi (bar)	*232 (16) 290 (20)	232 (16)	145 (10)	88 (6.07)	74 (5.10)	44 (3.03)
Flow Rate at Med. Pressure	gph (L/h)	0.7 (2.65)	1.59 (6.02)	2.98 (11.28)	3.88 (14.69)	5.60 (21.20)	8.20 (31.04)
Average Back Pressure	psi (bar)	145 (10)	116 (8)	72 (5)	44 (3.03)	36 (2.48)	22 (1.52)
Max. Stroke Frequency	SPM	150					
Suction Head	ft.-H ₂ O (m-H ₂ O)	9.8 (3)					
Max. Inlet Pressure (suction)	psi (bar)	11.6 (3.53)					
Nominal Valve Width		DN4					
Voltage Supply		110 to 240 V AC, -10%/+5%, 50/60 Hz					
Power Consumption	W (kW)	25 (0.025)					
Protection Class		IP 65 (with covering caps on the connections)					
Insulation Class		F					
Weight (PVC, PP, PVDF)	lb. (kg)	~4.85 (2.20)					
Weight (SS)	lb. (kg)	~7.27 (3.30)					
Max. Ambient Temperature	°F (°C)	with 316SS/PVDF 113° (45°), with PVC 104° (40°)					
Max. Temperature of Medium	°F (°C)	with 316SS/PVDF 176° (80°), with PVC 95° (35°), with PP 140° (60°)					

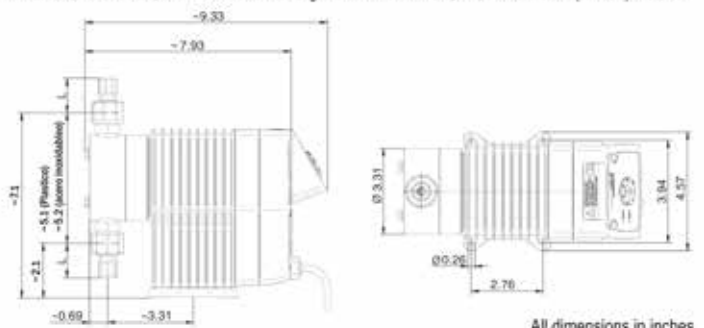
*PVC version

DIMENSIONS

NXP-M68, NXP-M140, NXP-M285 with dosing head made of PVC, PP or PVDF

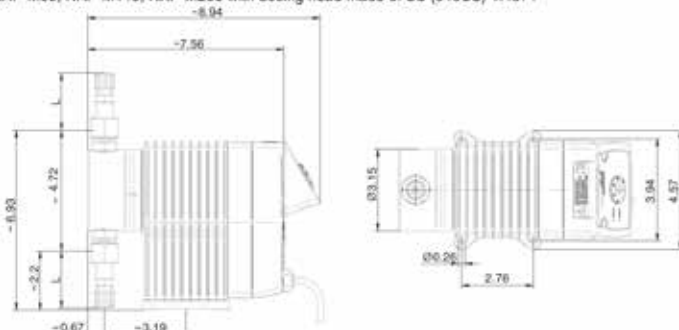


NXP-M375, NXP-M540, NXP-M810 with dosing head made of PVC, PP, PVDF or SS (316SS) 1.4571



All dimensions in inches

NXP-M68, NXP-M140, NXP-M285 with dosing head made of SS (316SS) 1.4571



MATERIAL	SIZE	NOMINAL DIAMETER	L
PVC, PP, PVDF	4/6 mm	DN4	1.22"
	1/4" x 3/8"	1/4"	1.34"
	1/4" x 7/16"	DN6	1.34"
SS (316SS)	1/4" FNPT	DN4	1.96"
	1/4" FNPT	DN6	2.12"

NSP Series – Neptune Solenoid Pump

Solenoid metering pumps play an important role in the reliable and accurate dosing of chemicals and liquids for a variety of processing applications.

Available in multiple sizes, materials and connections, Neptune's NSP Series Solenoid Pumps are equipped with double-ball valves to ensure accurate, consistent dosing. To adapt the dosing performance, the stroke frequency can be adjusted manually or, for some models, via an external control contact.

Thanks to the sturdy, low-maintenance solenoid drive, the media being supplied (for example acids, alkalis, coagulants and flocculants) is reliably and accurately dosed. The combination of the NSP Series' solid design and easy-to-use control, allow for short set up times and efficient operation.

The compact design and small footprint allow for easy integration into dosing systems even for installations with limited space available. Wall mounting is also possible, provided the check valves remain in a vertical orientation by rotating the head.

FEATURES & BENEFITS

- Capacity range to 3.96 gph (15 L/h), up to 232 psi (16 bar)
- Wide range power supply 110 ... 240 VAC, -10% / +5%, 50/60 Hz, 25 W
- Double-ball valves ensure accurate dosing
- Materials: PVC, PP, and PVDF
- Wall and floor mounting possible without a bracket



MOUNTING POSITIONS



Upright (Floor)



Right-Oriented (Wall)



Left-Oriented (Wall)

NSP-M Series

MANUALLY CONTROLLED SOLENOID PUMPS

- Integrated vented head
- Dosing heads and valves for high-viscosity media available

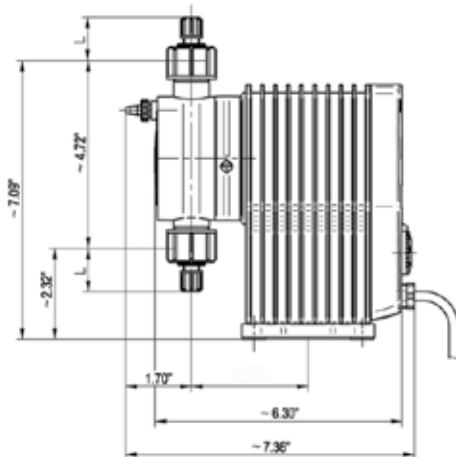


NSP-M Series SELECTION CHART

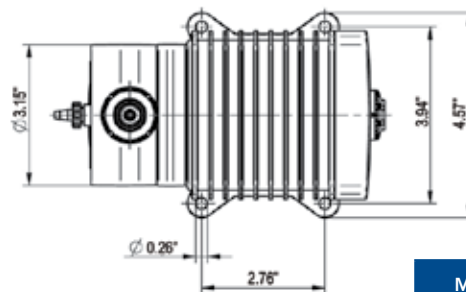
NSP-M Series		NSP-M09	NSP-M20	NSP-M50	NSP-M89	NSP-M160	NSP-M240	NSP-M343
Flow Rate at Max. Pressure	gph (L/h)	0.09 (0.34)	0.20 (0.76)	0.50 (1.90)	0.89 (3.37)	1.60 (6.06)	2.40 (9.09)	3.43 (13)
Max. Back Pressure (discharge)	psi (bar)	232 (16)	232 (16)	232 (16)	232 (16)	116 (8)	87 (6)	43 (3)
Flow Rate at Med. Pressure	gph (L/h)	0.14 (0.53)	0.29 (1.10)	0.61 (2.31)	1 (3.79)	1.80 (6.81)	2.64 (10)	3.96 (15)
Average Back Pressure	psi (bar)	116 (8)	116 (8)	116 (8)	116 (8)	58 (4)	43 (3)	14 (1)
Max. Stroke Frequency	SPM	120	250	160	180	180	180	250
Suction Head	ft.-H ₂ O (m-H ₂ O)	16 (4.87)	16 (4.87)	9 (2.74)	9 (2.74)	6 (1.83)	6 (1.83)	6 (1.83)
Max. Inlet Pressure (suction)	psi (bar)	11 (0.76)						
Voltage Supply		110 to 240 V, 50/60 Hz						
Power Supply Cable		6 (1.8)						
Power Consumption	W (kW)	18 (0.018)						
Protection Class		IP 65						
Weight	lb. (kg)	~6.6 (3)						
Max. Ambient Temperature	°F (°C)	PP/PVDF 113° (45°), with PVC 104° (40°)						
Max. Temperature of Medium	°F (°C)	PVDF 176° (80°), with PVC 95° (35°), with PP 140° (60°), with ACRYL 95° (35°)						

*Note that performance may vary for ACRYL material heads. Contact factory for more information.

DIMENSIONS



All dimensions in inches



MATERIAL	SIZE	L
PVC, PP, PVDF	1/4" x 3/8"	1.34"
	1/4" x 7/16"	1.34"
	1/4" FNPT	1.34"
SS (316SS)	1/4" FNPT	1.96"
	1/4" FNPT	2.12"

NSP-A Series

ANALOG CONTROLLED SOLENOID PUMPS

- Graphical display
- Dosing head manual venting
- Precise pump setting using the keypad
- External control via standard signal 0/4-20 mA
- Level input with early warning and main alarm
- Release input

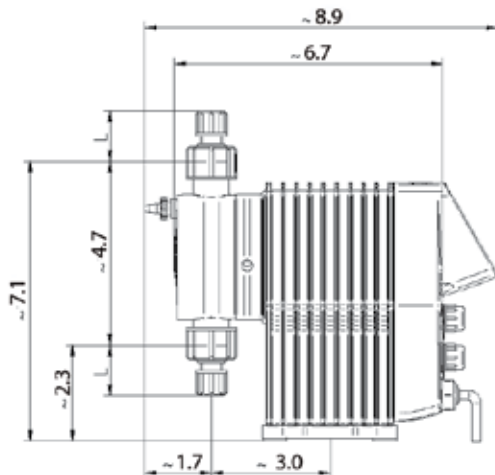


NSP-A Series SELECTION CHART

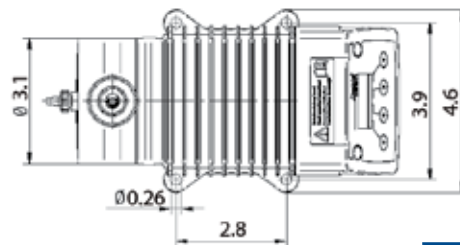
NSP-A Series		NSP-A09	NSP-A20	NSP-A50	NSP-A89	NSP-A164	NSP-A240	NSP-A343	
Flow Rate at Max. Pressure	gph (L/h)	0.09 (0.34)	0.20 (0.76)	0.50 (1.90)	0.89 (3.37)	1.64 (6.21)	2.40 (9.09)	3.43 (13)	
	ml/stroke	0.05	0.05	0.02	0.31	0.57	0.83	0.86	
Max. Back Pressure (discharge)	psi (bar)	232 (16)	232 (16)	232 (16)	232 (16)	116 (8)	87 (6)	43 (3)	
Flow Rate at Med. Pressure	gph (L/h)	0.14 (0.53)	0.29 (1.10)	0.61 (2.31)	1 (3.79)	1.80 (6.81)	2.64 (10)	3.96 (15)	
	ml/stroke	0.08	0.07	0.24	0.35	0.63	0.92	1.0	
Average Back Pressure	psi (bar)	116 (8)	116 (8)	116 (8)	116 (8)	58 (4)	43 (3)	14 (1)	
Max. Stroke Frequency	SPM	120	250	160	180	180	180	250	
Suction Head	ft.-H ₂ O (m-H ₂ O)	16 (4.87)	16 (4.87)	9 (2.74)	9 (2.74)	6 (1.83)	6 (1.83)	6 (1.83)	
Max. Inlet Pressure (suction)	psi (bar)	11 (0.76)							
Nominal Valve Width		DN3			DN4				
Voltage Supply		230 V AC +/- 10%, 50/60 Hz or 115 V AC +/- 10% 50/60 Hz							
Power Consumption	W (kW)	8 (0.008)	13 (0.013)	19 (0.019)	25 (0.025)	25 (0.025)	25 (0.025)	22 (0.022)	
Protection Class		IP 65							
Insulation Class		F							
Weight	lb. (kg)	~7 (3.18)							
Max. Ambient Temperature	°F (°C)	PP/PVDF 113° (45°), with PVC 104° (40°)							
Max. Temperature of Medium	°F (°C)	PVDF 176° (80°), with PVC 95° (35°), with PP 140° (60°), with ACRYL 95° (35°)							

*Note that performance may vary for ACRYL material heads. Contact factory for more information.

DIMENSIONS



All dimensions in inches



MATERIAL	SIZE	L
PVC, PP, PVDF	1/4" x 3/8"	1.34"
	1/4" x 7/16"	1.34"
	1/4" FNPT	1.34"

NSP-P Series

PULSE CONTROLLED SOLENOID PUMPS

- Graphical display
- Dosing head manual venting
- Precise pump setting using the keypad
- External control via pulse input (increase and reduction)
- Level input with early warning and main alarm
- Release input

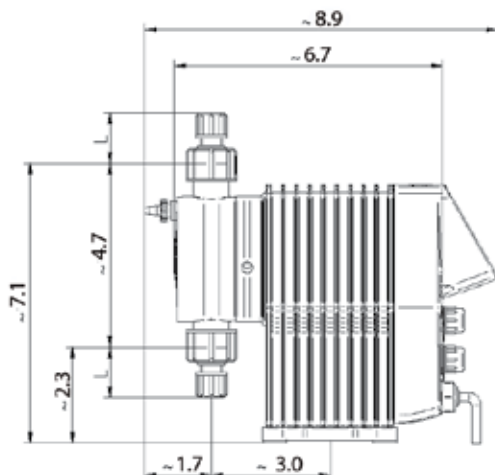


NSP-P Series SELECTION CHART

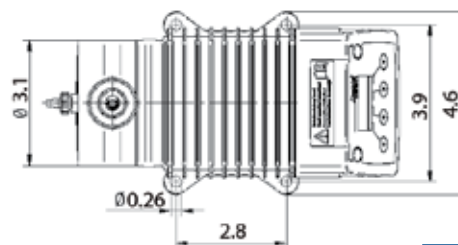
NSP-P Series		NSP-P09	NSP-P20	NSP-P50	NSP-P89	NSP-P164	NSP-P240	NSP-P343	
Flow Rate at Max. Pressure	gph (L/h)	0.09 (0.34)	0.20 (0.76)	0.50 (1.90)	0.89 (3.37)	1.64 (6.21)	2.40 (9.09)	3.43 (13)	
	ml/stroke	0.05	0.05	0.02	0.31	0.57	0.83	0.86	
Max. Back Pressure (discharge)	psi (bar)	232 (16)	232 (16)	232 (16)	232 (16)	116 (8)	87 (6)	43 (3)	
Flow Rate at Med. Pressure	gph (L/h)	0.14 (0.53)	0.29 (1.10)	0.61 (2.31)	1 (3.79)	1.80 (6.81)	2.64 (10)	3.96 (15)	
	ml/stroke	0.08	0.07	0.24	0.35	0.63	0.92	1.0	
Average Back Pressure	psi (bar)	116 (8)	116 (8)	116 (8)	116 (8)	58 (4)	43 (3)	14 (1)	
Max. Stroke Frequency	SPM	120	250	160	180	180	180	250	
Suction Head	ft.-H ₂ O (m-H ₂ O)	16 (4.87)	16 (4.87)	9 (2.74)	9 (2.74)	6 (1.83)	6 (1.83)	6 (1.83)	
Max. Inlet Pressure (suction)	psi (bar)	11 (0.76)							
Nominal Valve Width		DN3			DN4				
Voltage Supply		230 V AC +/- 10%, 50/60 Hz or 115 V AC +/- 10% 50/60 Hz							
Power Consumption	W (kW)	8 (0.008)	13 (0.013)	19 (0.019)	25 (0.025)	25 (0.025)	25 (0.025)	22 (0.022)	
Protection Class		IP 65							
Insulation Class		F							
Weight	lb. (kg)	~7 (3.18)							
Max. Ambient Temperature	°F (°C)	PP/PVDF 113° (45°), with PVC 104° (40°)							
Max. Temperature of Medium	°F (°C)	PVDF 176° (80°), with PVC 95° (35°), with PP 140° (60°), with ACRYL 95° (35°)							

*Note that performance may vary for ACRYL material heads. Contact factory for more information.

DIMENSIONS



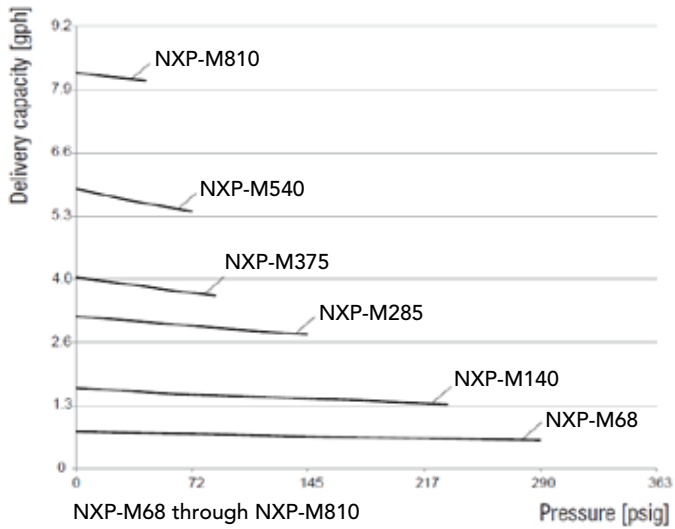
All dimensions in inches



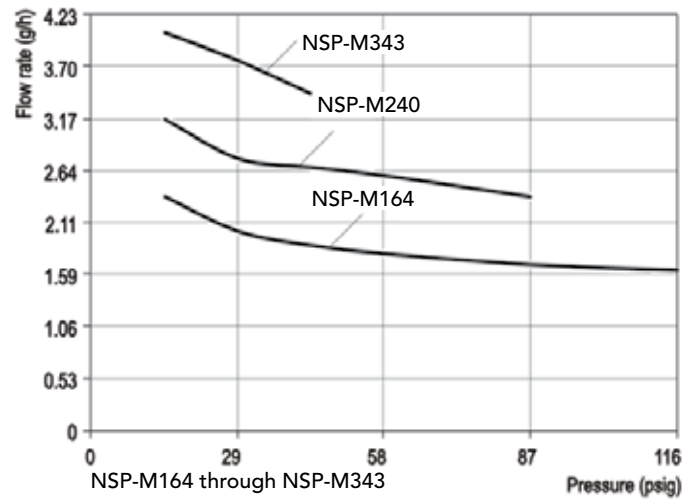
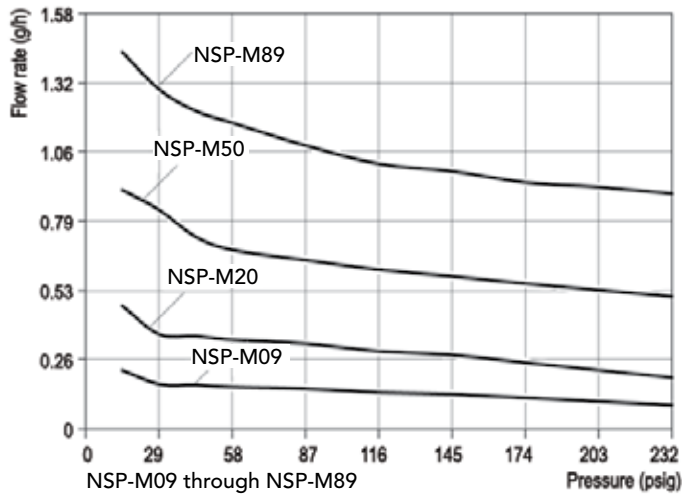
MATERIAL	SIZE	L
PVC, PP, PVDF	1/4" x 3/8"	1.34"
	1/4" x 7/16"	1.34"
	1/4" FNPT	1.34"

Performance Curves

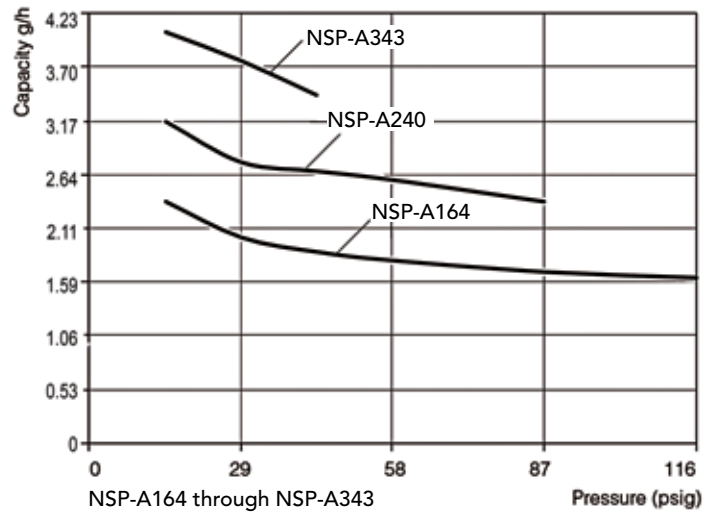
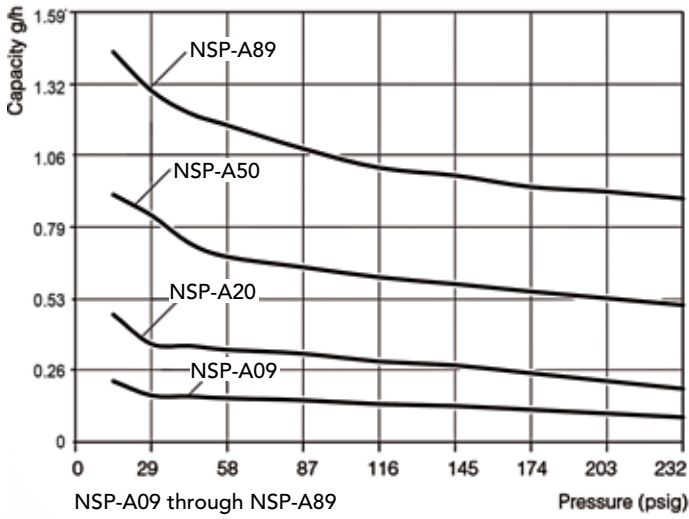
NXP SERIES – NEPTUNE STEPPER MOTOR PUMP



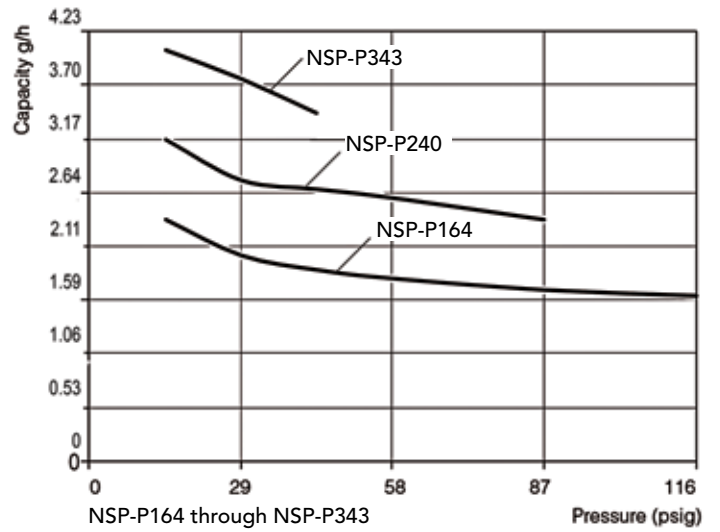
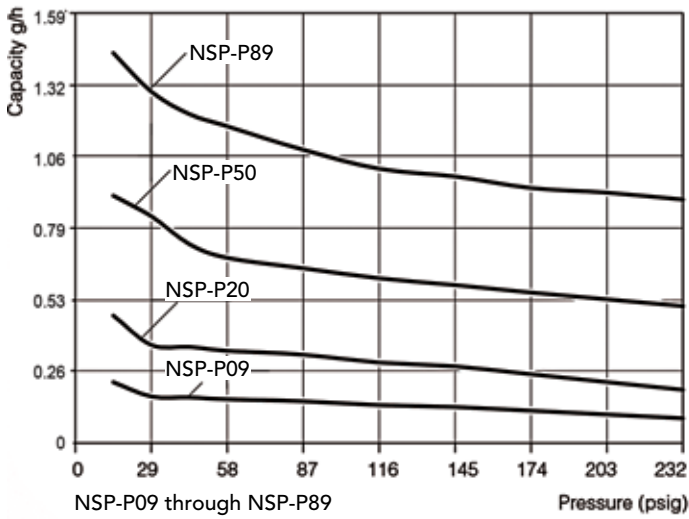
NSP-M SERIES – NEPTUNE SOLENOID PUMP



NSP-A SERIES – NEPTUNE SOLENOID PUMP



NSP-P SERIES – NEPTUNE SOLENOID PUMP





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