

# Series 7800 Pump

Model: 786X-XX77-B721

Flow Range: Open Flow = .75-1.14 GPM

At 130 PSI = .34-.75 GPM

## COMPLETING THE PART NUMBER:

786X-XX77-B721

Flexible Mounting Plate (Other Types Available)

Desired Shut-off Pressure & Code

0 = None      D = 50PSI      H = 90PSI      L = 130PSI

A = 30PSI      E = 60PSI      I = 100PSI

B = 40PSI      F = 70PSI      J = 110PSI

C = 45PSI      G = 80PSI      K = 120PSI

See Performance Data for Recommended By-pass Pressure and Code

Pressure Control Options

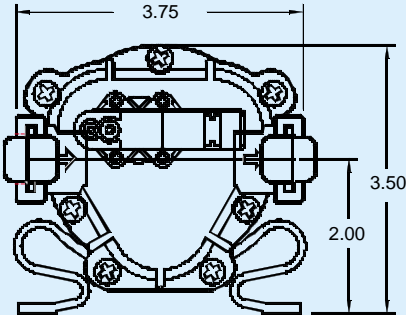
0 = No Control (Waiver Required)

1 = Pressure Switch Control (Select Desired Shut Off Pressure)

2 = Pressure Relief Valve (Select Recommended By-Pass Pressure)

Select Pumphead Model From Performance Data Chart

Quick Disconnect Ports for Barb Fittings



## SPECIFICATIONS:

### MOTOR:

TYPE:

24 VDC, Permanent Magnet,  
Totally Enclosed, Non-Ventilated

LEADS:

14 AWG, 12" LONG

TEMP. LIMITS:

For User Safety, Optimal Performance, and  
Maximum Motor Life, This Motor is Equipped with a  
Thermal Protector that Limits the Motor Shell  
Temperature to 145°F (63°C), as Shown on the Heat  
Rise Graph.

DUTY CYCLE:

See Heat Rise Graph

### PUMP DESIGN:

3 Chamber Diaphragm Pump, Self Priming,  
Capable of Being Run Dry

### TYPICAL APPLICATION:

Agriculture Spraying Equipment

### MATERIALS:

HOUSINGS:

Polypropylene

VALVES:

Viton

DIAPHRAGM:

Santoprene

FASTENERS:

Stainless Steel, Zinc Plated Carbon Steel

### LIQUID TEMPERATURE:

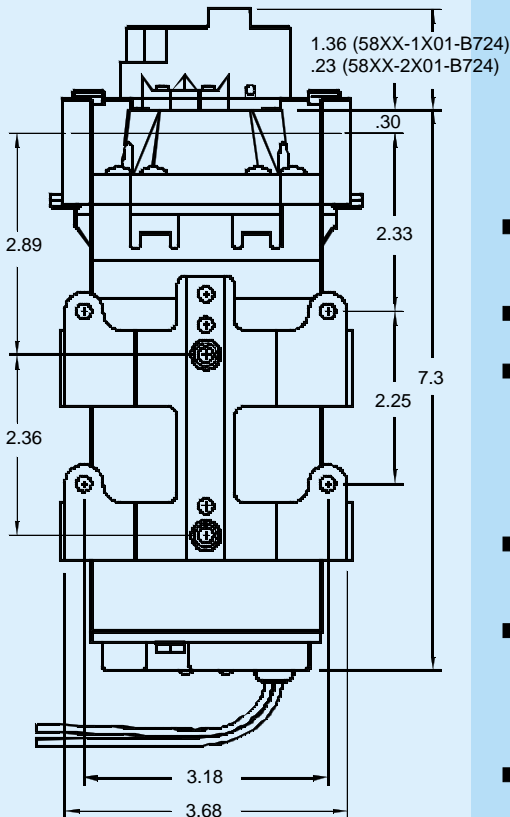
140°F (60°C) Max.

### PRIMING CAPABILITIES:

	58X0	58X1	58X2	58X3
PRIME (FEET)	5	5.5	6	9

### FITTINGS:

TYPE	SHAPE	HOSE BARB SIZE	
		3/8"	1/2"
QUICK DISCONNECT	STRAIGHT	QBS-783	QBS-784
QUICK DISCONNECT	ELBOW	QBE-783	QBE-784



WEIGHT: 6 lbs.



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DOCUMENT: DS786X-XX77-B721  
ISSUED: 9/15/09  
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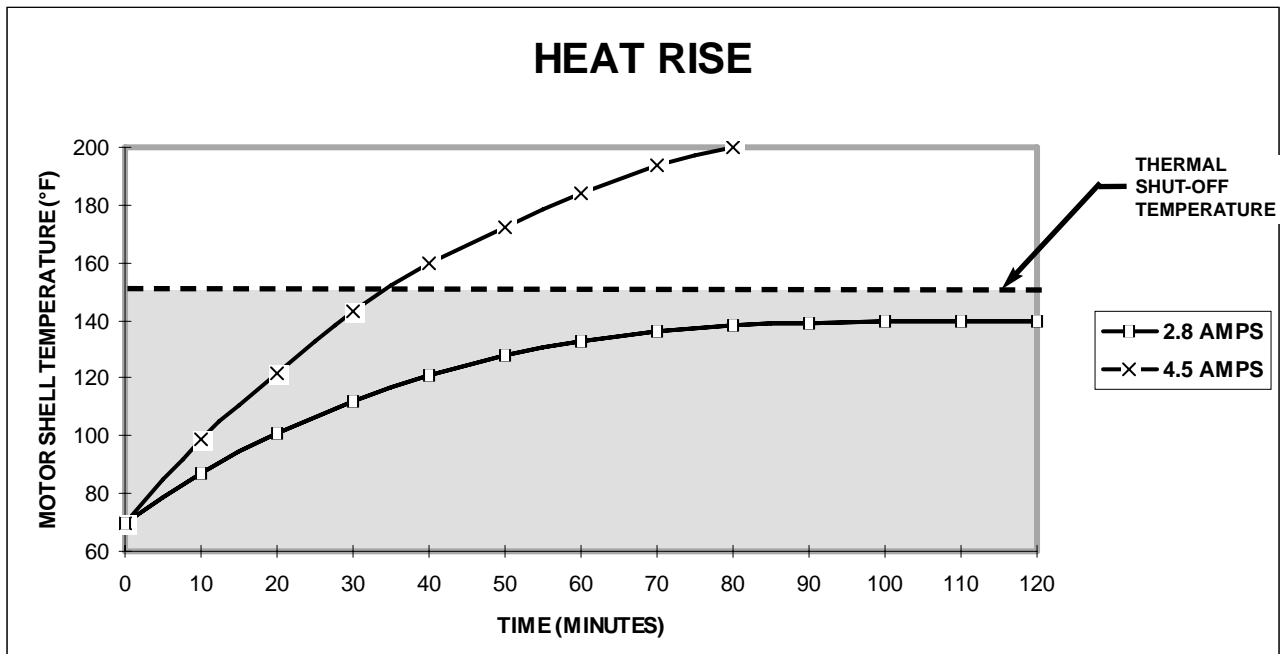
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Model: 786X-XX77-B721

PERFORMANCE DATA												
DISCHARGE PRESSURE (PSI)	PUMPHEAD MODEL										RECOMMENDED BY-PASS PRESSURE	
	7860		7861		7862		7863		7864		PSI	CODE
	FLOW (GPM)	CURRENT (AMPS)	FLOW (GPM)	CURRENT (AMPS)	FLOW (GPM)	CURRENT (AMPS)	FLOW (GPM)	CURRENT (AMPS)	FLOW (GPM)	CURRENT (AMPS)		
130	0.34	2.00	0.40	2.30	0.50	3.00	0.75	3.75	0.90	4.50	160	P
120	0.36	1.94	0.43	2.23	0.55	2.89	0.78	3.58	0.94	4.27	150	N
110	0.38	1.88	0.46	2.15	0.60	2.75	0.82	3.40	0.97	4.05	140	M
100	0.40	1.79	0.49	2.03	0.65	2.59	0.86	3.20	1.00	3.80	130	L
90	0.42	1.70	0.52	1.90	0.70	2.40	0.90	3.00	1.03	3.55	120	K
80	0.44	1.55	0.53	1.80	0.73	2.16	0.93	2.70	1.06	3.24	110	J
70	0.46	1.40	0.54	1.70	0.76	1.90	0.96	2.40	1.09	2.90	100	I
60	0.49	1.25	0.57	1.50	0.79	1.75	0.97	2.17	1.11	2.60	90	H
50	0.52	1.10	0.60	1.30	0.81	1.60	0.98	1.95	1.13	2.30	90	H
40	0.56	1.00	0.64	1.17	0.84	1.40	1.00	1.67	1.15	1.94	90	H
30	0.60	0.90	0.68	1.05	0.86	1.20	1.02	1.40	1.17	1.60	90	H
20	0.65	0.80	0.73	0.92	0.88	1.02	1.06	1.20	1.19	1.38	90	H
10	0.70	0.70	0.78	0.80	0.90	0.85	1.10	1.00	1.22	1.20	90	H
OPEN	0.75	0.65	0.83	0.68	0.92	0.60	1.14	0.82	1.25	1.04	90	H

PERFORMANCE MEASURED WITH FLOODED INLET (0 PSI), 70°F (21°C) AMBIENT AND WATER TEMPERATURE, AND VOLTAGE CONTROLLED AT 24 VDC. POSITIVE INLET PRESSURE WILL INCREASE THE DISCHARGE PRESSURE BY A SIMILAR AMOUNT, FOR A GIVEN FLOW. MAXIMUM INLET PRESSURE IS 60 PSI.

SHADED AREA DENOTES CONTINUOUS OPERATION CAPABILITY AT DESIGNATED PRESSURE AND CURRENT.



The shaded area in both the Performance Data and Heat Rise charts, contains pumps with current levels that are capable of running without periodic cool down. Pumps in this category will generally transfer more water over sustained periods than those in the unshaded areas, which are required to shut down while the motor cools. Some applications require maximum flows at high pressures for relatively short periods, however, so an explanation of thermal protection follows:

1. The Heat Rise graph plots the highest current that can run without ever leaving the Shaded Area, in this case, 2.80 amps. All pumps with lower operating currents may also run continuously, unless the surrounding air temperature exceeds 70°F (21°C).
2. The other curve shown is the highest flow and pressure model offered, the 7864. At 130 PSI, this pump will flow .9 GPM, drawing 4.5 amps.
3. The motor driving all of these pump models has a built in thermal protector that will open, shutting off the pump, when the surface temperature of the motor heats to approximately 145°F. After the initial room temperature heat rise as shown, the model 7864 reaches the shut off temperature after about 35 minutes of run time, pumping about 31 gallons at 130 PSI.
4. Motors of this size and construction require 20 to 40 minutes of cooling time before the thermal protector closes and re-energizes the pump. Lower current levels heat more slowly, allowing longer run times, but the cool down time still averages about 30 minutes, at 70°F ambient temperature.
5. Your application may call for short bursts of water, consuming far less than the 35 minutes of sustained operation. Start up current exceeds normal running current, however, so cycling should be limited to 6 times per minute.

ALL PERFORMANCE AND HEAT RISE FIGURES ARE APPROXIMATE. ACTUAL VALUES WILL VARY WITH AMBIENT CONDITIONS.