



# SHAKTI SOLAR PUMPS



Feb./2015-16/L1/100 VC : 2344 SAP No. 2900000778



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Solar Submersible Pumps & Motors  
Solar Monoblock Pumps

North America

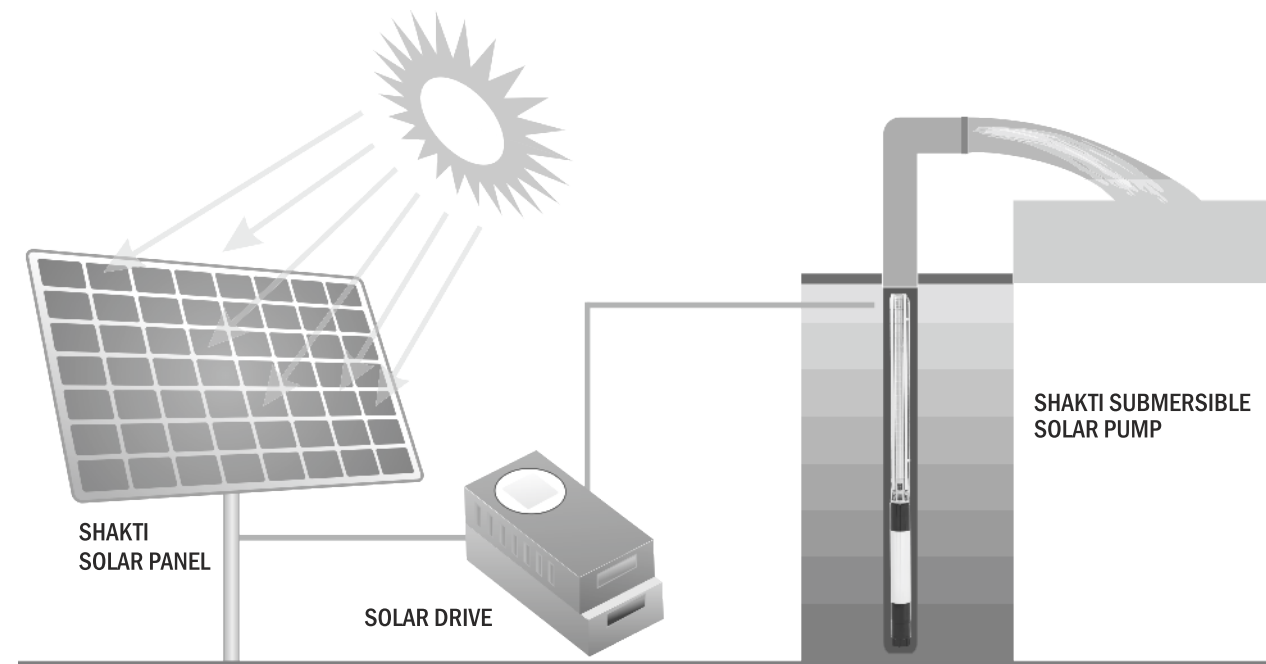
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## INTRODUCTION OF SOLAR PUMPING SYSTEM

Solar pumping system becomes more and more popular, it can be applied to daily use (underground water), agriculture irrigation, forestry irrigation, desert control, pasture animal husbandry, water supply for islands, wastewater treatment engineering, and so on. In recent years, with the promotion of the utilization of new energy resources, solar pumping systems are more and more used in municipal engineering, city centre squares, parks, tourist sites, resorts and hotels, the landscapes and fountain systems in the residential areas. This system is composed of a solar array, a pump and a solar pumping inverter. Based on the design philosophy that it is better to store water than electricity, there is no energy storing device such as store battery in the system.



**Structure of solar pumping system**

The solar array, an aggregation of many solar modules connected in series and parallel, absorbs sunlight radiation and converts it into electrical energy, providing dynamical water for the whole system. The pumping inverter controls and adjusts the system operation and converts the DC produced by solar array into AC to drive the pump, and adjust the output frequency in real-time according to the variation of sunlight intensity to realize the maximum power point tracking (MPPT). The pump, drive by 3-phase AC motor, can draw water from the deep wells or rivers and lakes to pour into the storage tank or reservoir, or directly connect to the irrigation system, fountain system, ect. According to the actual system demand and installation conditions, different types of pump such as centrifugal pump, axial flow pump, mixed-flow pump or deep-well pump can be used.

### Applications

- Ground water lowering
- Irrigation systems
- Industrial Application
- Drip irrigation & sprinkler
- Tank / Cistern filling
- Wildlife refuge
- Rural water supply for ranches, cabins, and cottages
- Fountains

### Features

- High flow system for faster tank fill and significant water output.
- Proven motor and pump technology for long-term reliability
- Available Free of cost at your doorstep.
- Clean and pollution free energy, Eco-friendly & do not harm nature.
- Ideal for remote areas, where electricity is not available or availability is capital intensive.
- Suitable for day time irrigation, Continuous supply for 6-8 hours in a day.
- MPPT – Max Power Point Tracking for maximizing efficiency of input power
- Soft start feature prevents water hammer and increases system life Easy to operate.
- Simple installation and no required maintenance.
- MNRE approved.

### All-in-One Package

The Solar drive PAK is the System Solution for solar pumping requirements. Using Shakti Electric's quality components, our technical expertise in groundwater pumping, and innovative thinking based on global market inputs, we have developed a rugged, high-output system which tackles the challenges of remote and harsh environments. No other system delivers the features, benefits, and reliability of Solar drive PAK in just one package!

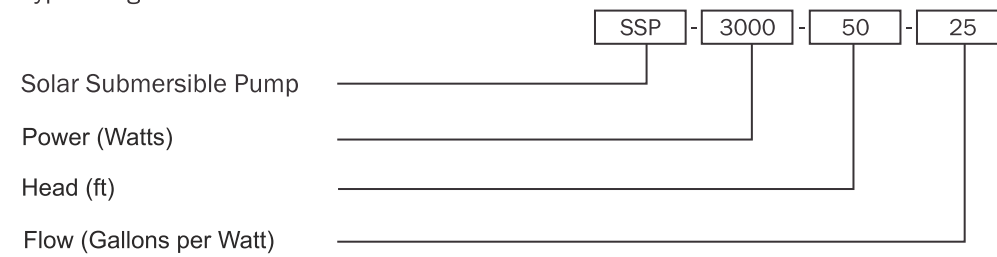
### The Solar water pumping system includes

- Shakti Electric Submersible motor
- Shakti Submersible pump
- Solar Panel and its mounting structure
- Solar Drive controller
- Cable
- Pipes
- Variety of flow rates available in: 1.4 to 1320 US GPM (5 to 5000 LPM)
- Motor and drive ratings available in: 1.0 to 100.0 HP (0.75 to 75.0 kW)

## INTRODUCTION OF SOLAR PUMPING SYSTEM

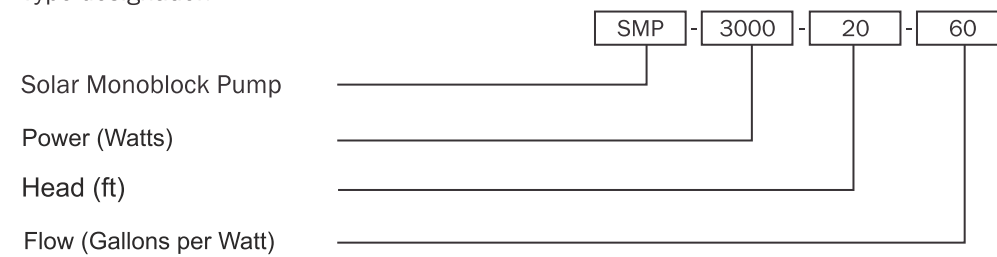
### SSP SERIES

Type designation



### SMP SERIES

Type designation



Note: Above mentioned input powers are of motor end.

## SOLAR CONTROLLER

### OVERVIEW

The Shakti Solar controller is a variable speed motor drive designed to run a Shakti three-phase AC motor. The Shakti Solar provides water to remote locations by converting high voltage, direct current from a solar array into alternating current to run a shakti AC motor. When solar power is not available, the controller can manual switch to an alternate three or single-phase AC input such as a grid or generator or inverter from battery, if available. The controller provides fault detection, motor soft start, and speed control.

The Shakti Solar drive is designed with the high standard of reliability expected of Shakti products. The controller attempts to drive the pump and motor to deliver water even under adverse conditions, reducing output as necessary to protect the system components from damage, and only shutting down in extreme cases.

### Descriptions and Features

The Shakti Solar drives controller continuously monitors system performance and incorporates a number of features for pump system protection. In the event of a fault, the Shakti Solar drives will indicate the type of fault through the LCD displays.

**The Shakti Solar drives system is optimized for pumping under adverse input power conditions unique to solar arrays.**

- Internal diagnostics will tolerate a lower input voltage.
- Whenever possible, the controller attempts to regulate the pump load in a manner that optimizes for maximum power transfer from the solar array.
- The drive manually switches to AC backup power (when available) if the DC primary source is unable to support pump operation.

**The controller construction is ruggedized for hostile environmental conditions.**

- The case is constructed of heavy-gauge zinc plated steel to resist rain, animal intrusion and prolonged direct exposure to sunlight.
- The seals are designed for NEMA 3 (IEC rating IP55), (dust tight, and withstand directed jets of water).
- For maximum protection against dust, there is no external cooling fan or other external moving parts.

**An easy to use interface is provided to enhance configurability and enable remote system monitoring.**

- A three-digit seven-segment display provides a detailed indication of system status.
- A small keypad offers flexibility for selection of user options.
- A continuous data connection for remote telemetry is made available via an RS-485 port. (Optional)
- If using remote telemetry, follow the register information found in the RS-485 addendum. (Optional)

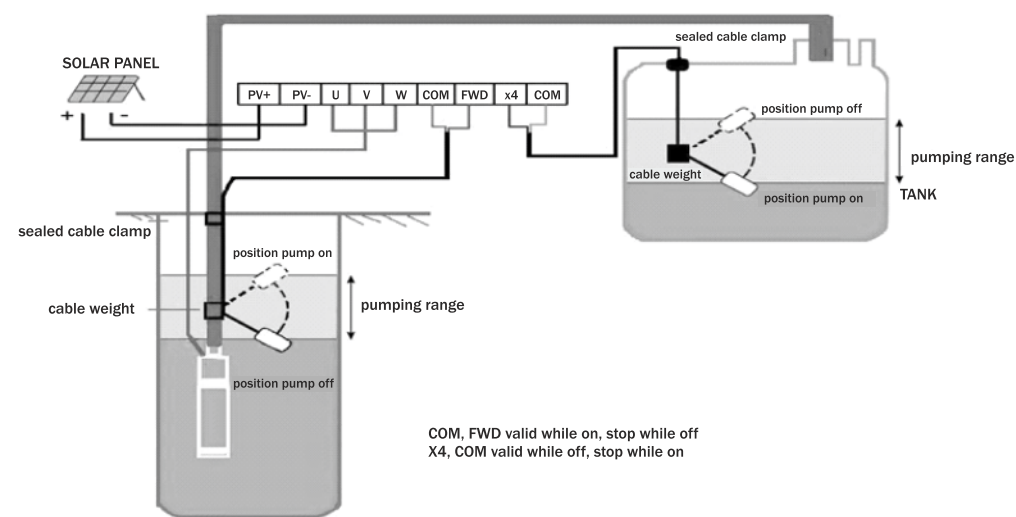


## SOLAR CONTROLLER

### PROTECTION FEATURES

Electronic monitoring gives the controller the capability to monitor the system and automatically shut down in the event of: Dry run conditions – with smart pump monitoring, High Voltage Surge, Low Input Voltage, Open motor circuit, Short circuit, Over heat, Earth fault

### SOLAR PUMP DRIVE WIRING DIAGRAM



### SOLAR PUMP DRIVE SPECIFICATION

Model	Power of drive (kw)	Max. Input voltage of Solar Arrays (Volt)	Output Voltage (Volt)	Range of MPPT (Vdc)	Output Current (Amp)	Output frequency (Hz)	Net weight (LBS)
SHAKTI-01P-10A	1.5	450	110-230	150-400	10	0-60	35
SHAKTI-03P-13A	2.2	780	230-460	250-780	13	0-60	38
SHAKTI-03P-13A	4	780	230-460	250-780	13	0-60	40
SHAKTI-03P-17A	7.5	780	230-460	250-780	17	0-60	44
SHAKTI-03P-25A	9	780	230-460	250-780	25	0-60	53
SHAKTI-03P-32A	11	780	230-460	250-780	32	0-60	66
SHAKTI-03P-38A	15	780	230-460	250-780	38	0-60	84
SHAKTI-03P-45A	18	780	230-460	250-780	45	0-60	100
SHAKTI-03P-60A	22	780	230-460	250-780	60	0-60	111

## SOLAR CONTROLLER



**SOLAR SUBMERSIBLE PUMP**

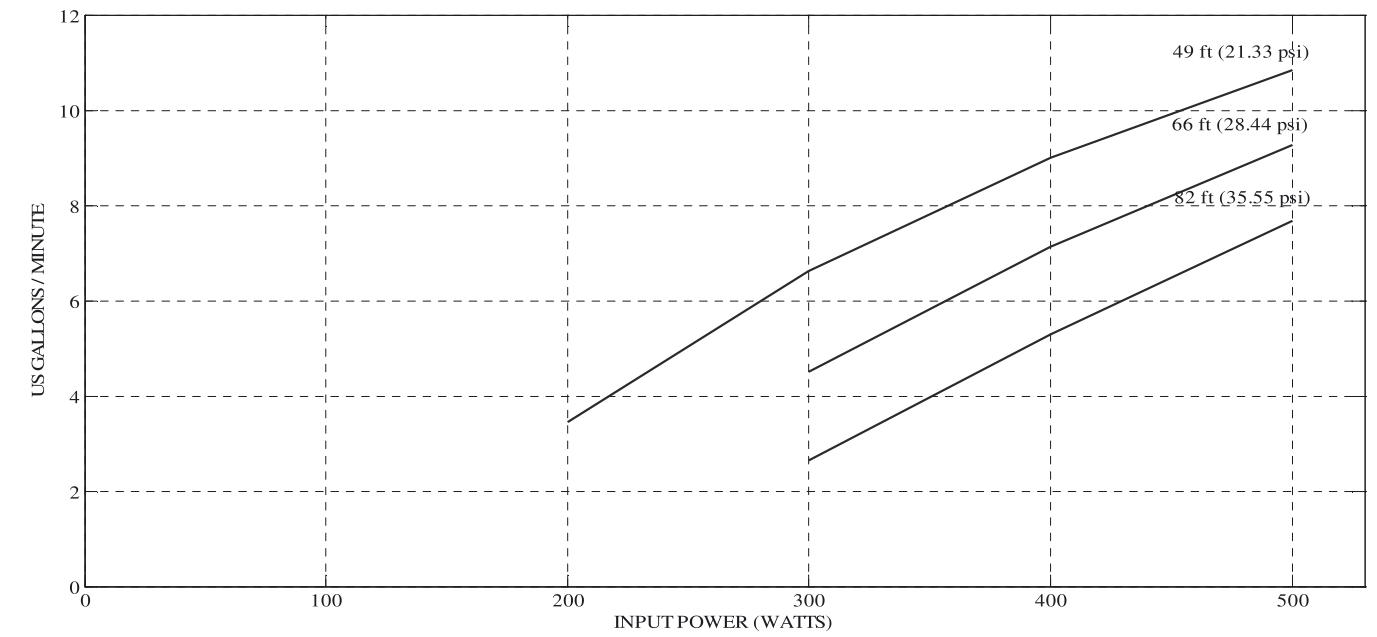


**PUMP PERFORMANCE SSP500-66-6.8**

**SSP SERIES**



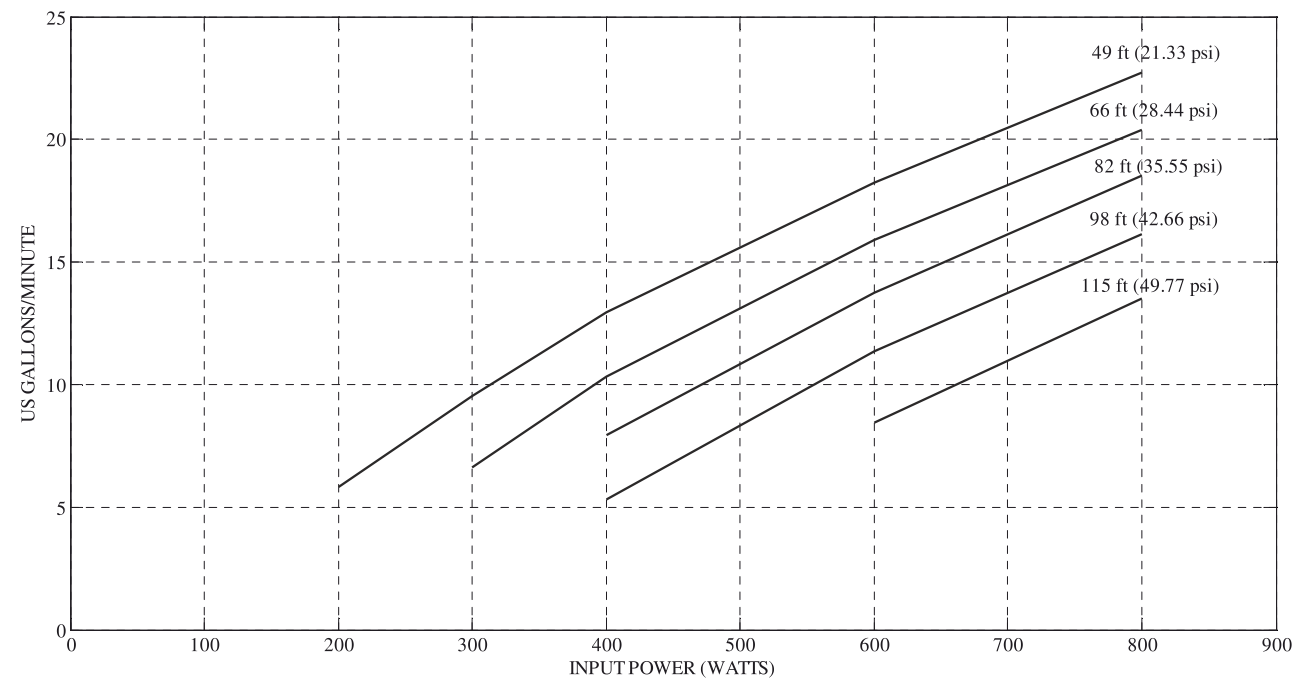
**MOTOR 0.5 HP**  
**120 VOLT MOTOR - (4"X4") - NPT 1.25"**  
**MAXIMUM OD 4" - MATERIAL CODE 9500000118**



	INPUT POWER (WATTS)			
	500	400	300	200
HEAD(ft)	FLOW RATE (US GALLONS / MINUTE)			
50	11	9	7	3
66	9	7	5	
82	8	5	3	

**PUMP PERFORMANCE SSP750-66-9**

**MOTOR 1 HP**  
**120 VOLT MOTOR - (4"X4") - NPT 1.25"**  
**MAXIMUM OD 4" - MATERIAL CODE 9500000119**

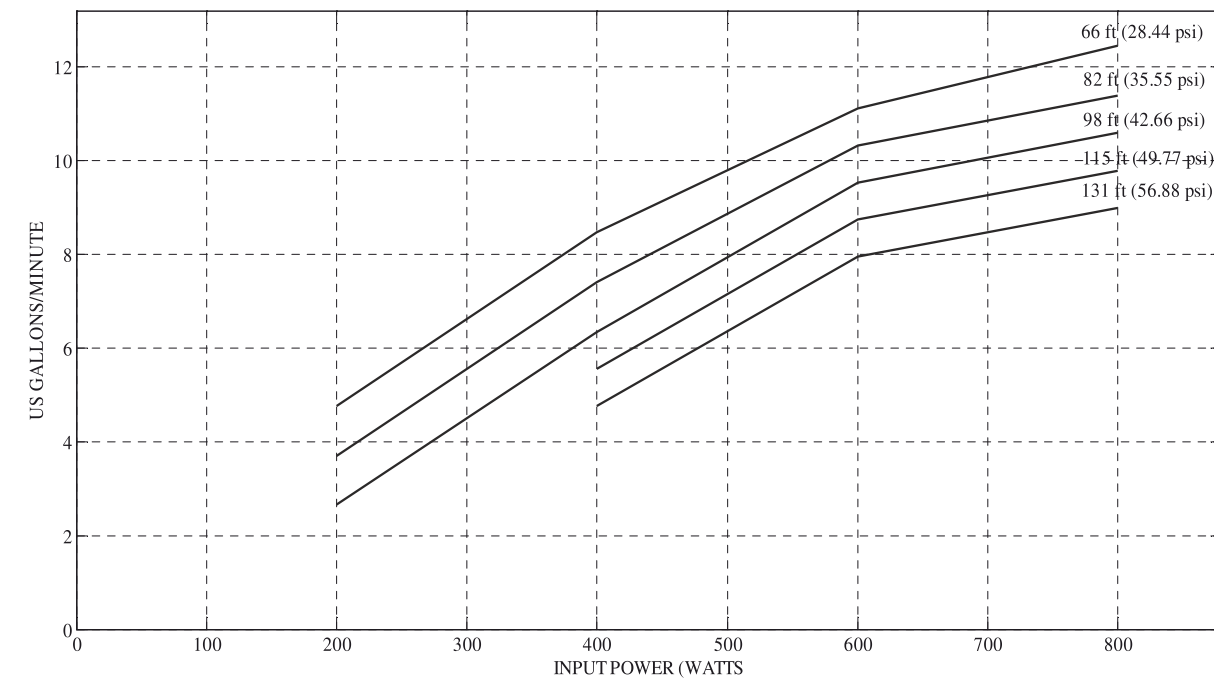


	INPUT POWER (WATTS)				
	800	600	400	300	200
<b>HEAD(ft)</b>	<b>FLOW RATE (US GALLONS / MINUTE)</b>				
49	23	18	13	10	6
66	20	16	10	7	
82	19	14	8		
98	16	11	5		
115	14	9			



**PUMP PERFORMANCE SSP750-98-5**

**MOTOR 1 HP**  
**120 VOLT MOTOR - (4"X4") - NPT 1.25"**  
**MAXIMUM OD 4" - MATERIAL CODE 9500000120**

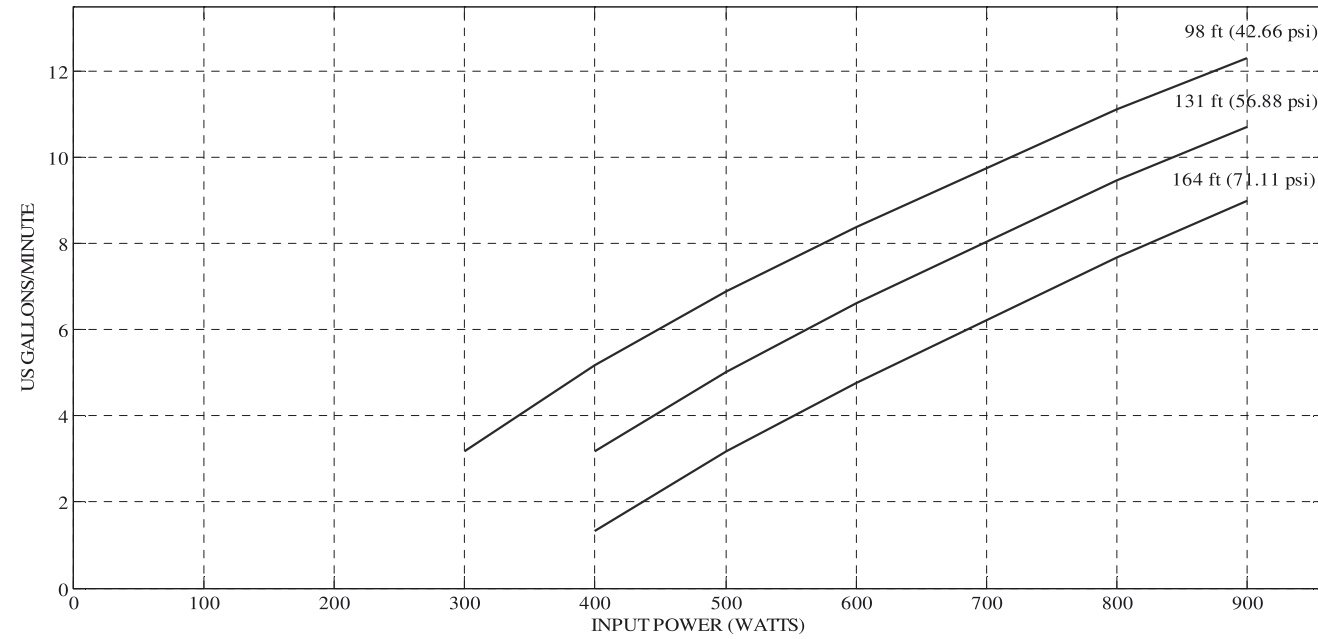


	INPUT POWER (WATTS)			
	800	600	400	200
<b>HEAD(ft)</b>	<b>FLOW RATE (US GALLONS / MINUTE)</b>			
66	12	11	9	5
82	11	10	7	4
98	11	10	6	3
115	10	9	6	
131	9	8		



**PUMP PERFORMANCE SSP900-164-3.4**

**MOTOR 1 HP**  
**120 VOLT MOTOR - (4"X4") - NPT 1.25"**  
**MAXIMUM OD 4" - MATERIAL CODE 9500000121**

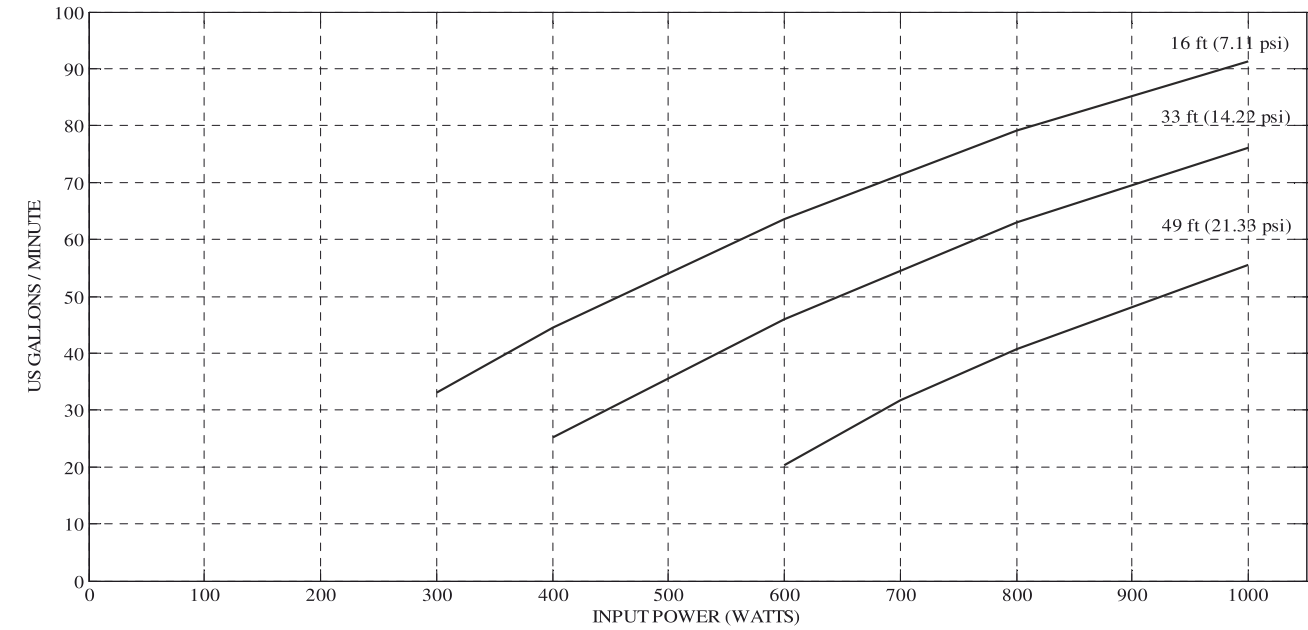


	INPUT POWER (WATTS)					
	900	800	600	500	400	300
HEAD(ft)	FLOW RATE (US GALLONS / MINUTE)					
98	12	11	9	7	5	3
131	11	10	7	5	3	
164	9	8	5	3	1	



**PUMP PERFORMANCE SSP1000-33-27**

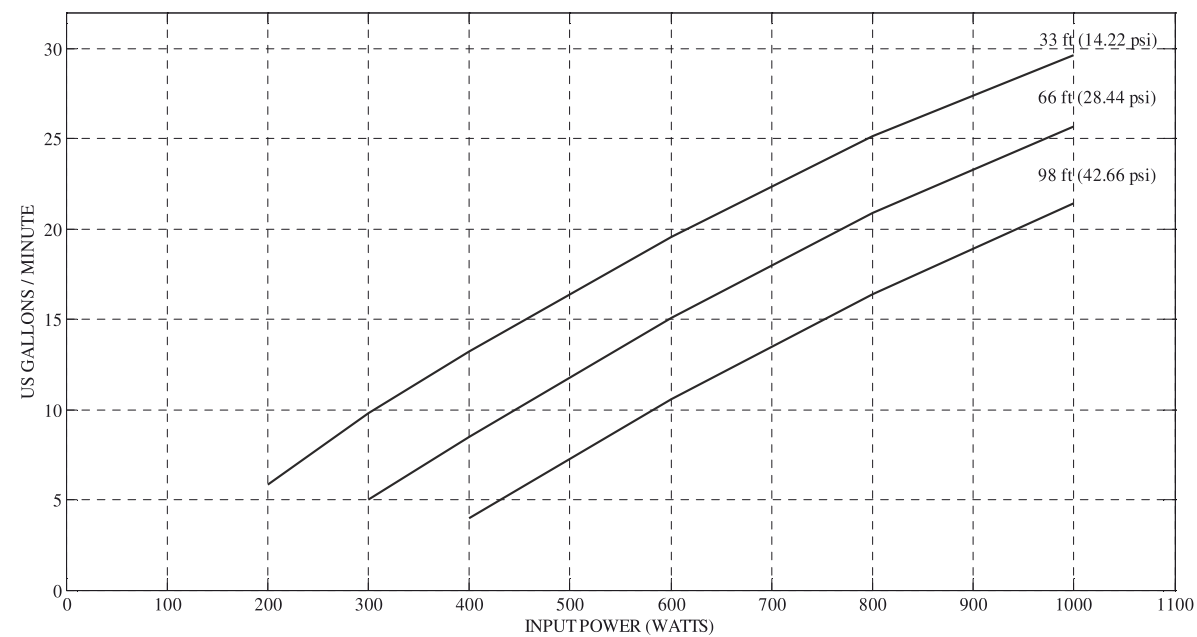
**MOTOR 1 HP**  
**120 VOLT MOTOR - (4"X6") - NPT 2"**  
**MAXIMUM OD 6" - MATERIAL CODE 9500000122**



	INPUT POWER (WATTS)				
	1000	800	600	400	300
HEAD(ft)	FLOW RATE (US GALLONS / MINUTE)				
16	91	79	64	44	33
33	76	63	46	25	
49	56	41	20		

**PUMP PERFORMANCE SSP1000-98-7.6**

**MOTOR 1 HP**  
**120 VOLT MOTOR - (4"X4") - NPT 1.50"**  
**MAXIMUM OD 4" - MATERIAL CODE 9500000123**

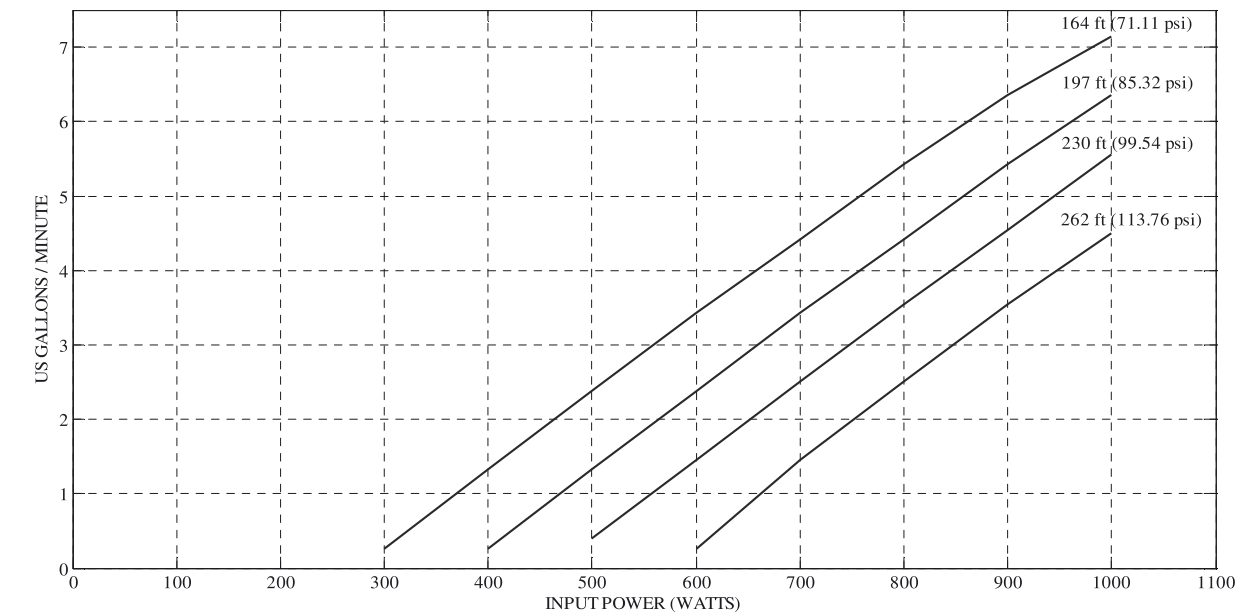


	INPUT POWER (WATTS)					
	1000	800	600	400	300	200
<b>HEAD (ft)</b>	<b>FLOW RATE (US GALLONS / MINUTE)</b>					
<b>33</b>	<b>30</b>	<b>25</b>	<b>20</b>	<b>13</b>	<b>10</b>	<b>6</b>
<b>66</b>	<b>26</b>	<b>21</b>	<b>15</b>	<b>9</b>	<b>5</b>	
<b>98</b>	<b>21</b>	<b>16</b>	<b>11</b>	<b>4</b>		



**PUMP PERFORMANCE SSP1000-230-2**

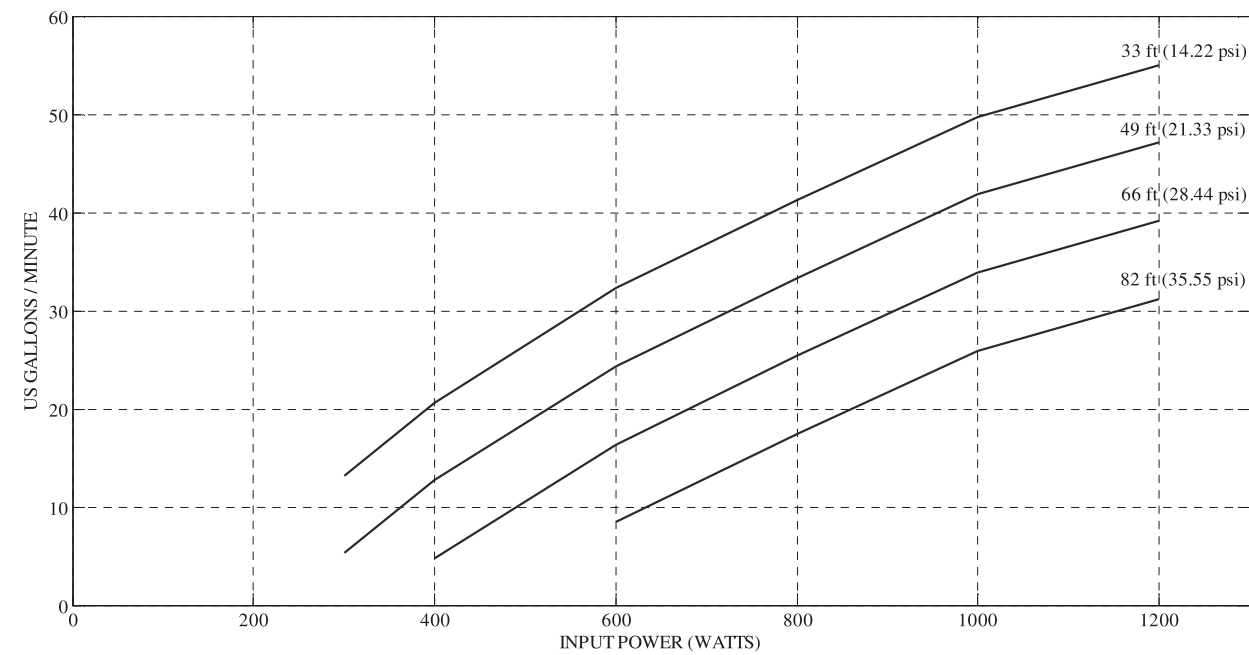
**MOTOR 1 HP**  
**180 VOLT MOTOR - (4"X4") - NPT 1.25"**  
**MAXIMUM OD 4" - MATERIAL CODE 9500000124**



	INPUT POWER (WATTS)							
	1000	900	800	700	600	500	400	300
<b>HEAD(ft)</b>	<b>FLOW RATE (US GALLONS / MINUTE)</b>							
<b>164</b>	<b>7</b>	<b>6</b>	<b>5</b>	<b>5</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>0.3</b>
<b>197</b>	<b>6</b>	<b>5</b>	<b>5</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>0.3</b>	
<b>230</b>	<b>6</b>	<b>5</b>	<b>3</b>	<b>3</b>	<b>1</b>	<b>1</b>		
<b>262</b>	<b>5</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>1</b>			

### PUMP PERFORMANCE SSP1200-66-1 1.6

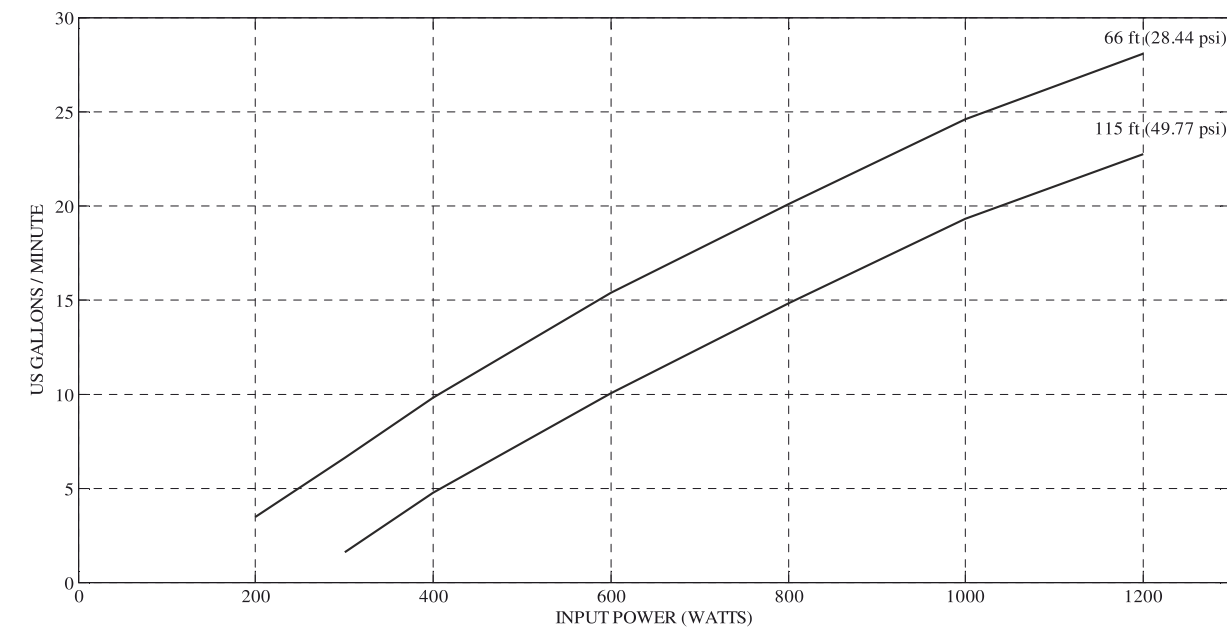
**MOTOR 1 HP**  
**120 VOLT MOTOR - (4"X4") - NPT 2.0"**  
**MAXIMUM OD 4" - MATERIAL CODE 9500000125**



	PHOTOVOLTAIC POWER (WATTS)					
	1200	1000	800	600	400	300
HEAD(ft)	FLOW (US GALLONS / MINUTE)					
33	55	50	41	32	21	13
49	47	42	33	24	13	5
66	39	34	25	16	5	
82	31	26	17	9		

### PUMP PERFORMANCE SSP1200-1 15-6.8

**MOTOR 1 HP**  
**120 VOLT MOTOR - (4"X4") - NPT 1.50"**  
**MAXIMUM OD 4" - MATERIAL CODE 9500000126**

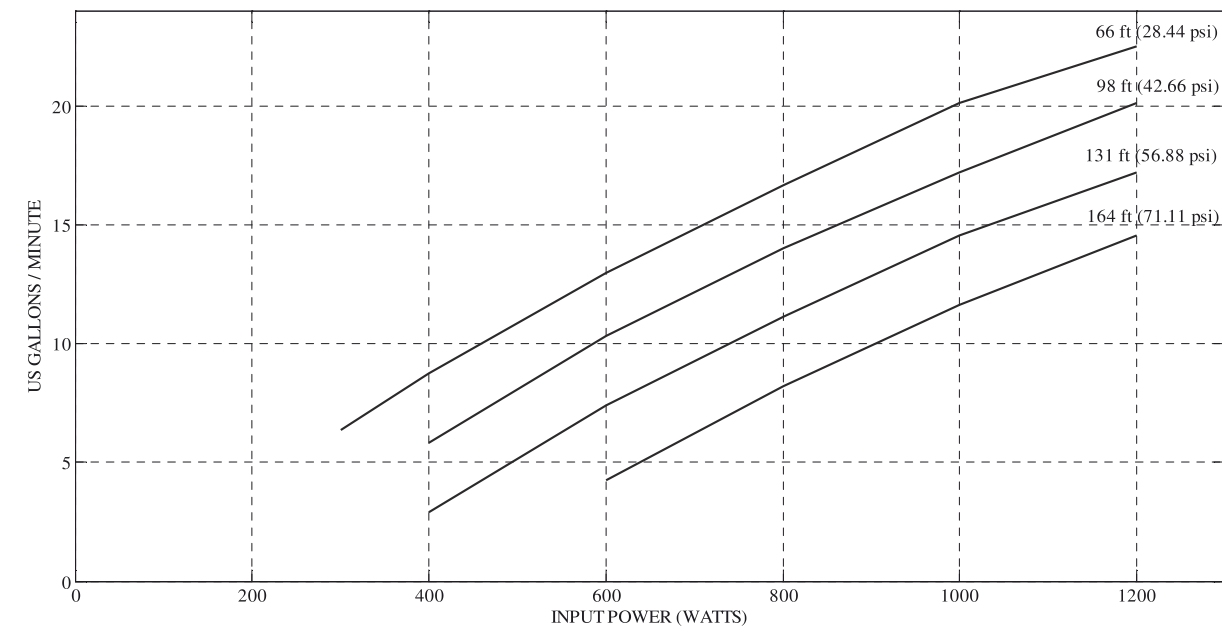


	PHOTOVOLTAIC POWER (WATTS)						
	1200	1000	800	600	400	300	200
HEAD(ft)	FLOW (US GALLONS / MINUTE)						
66	28	25	20	15	10	7	3
115	23	19	15	10	5	2	



### PUMP PERFORMANCE SSP1200-131-5

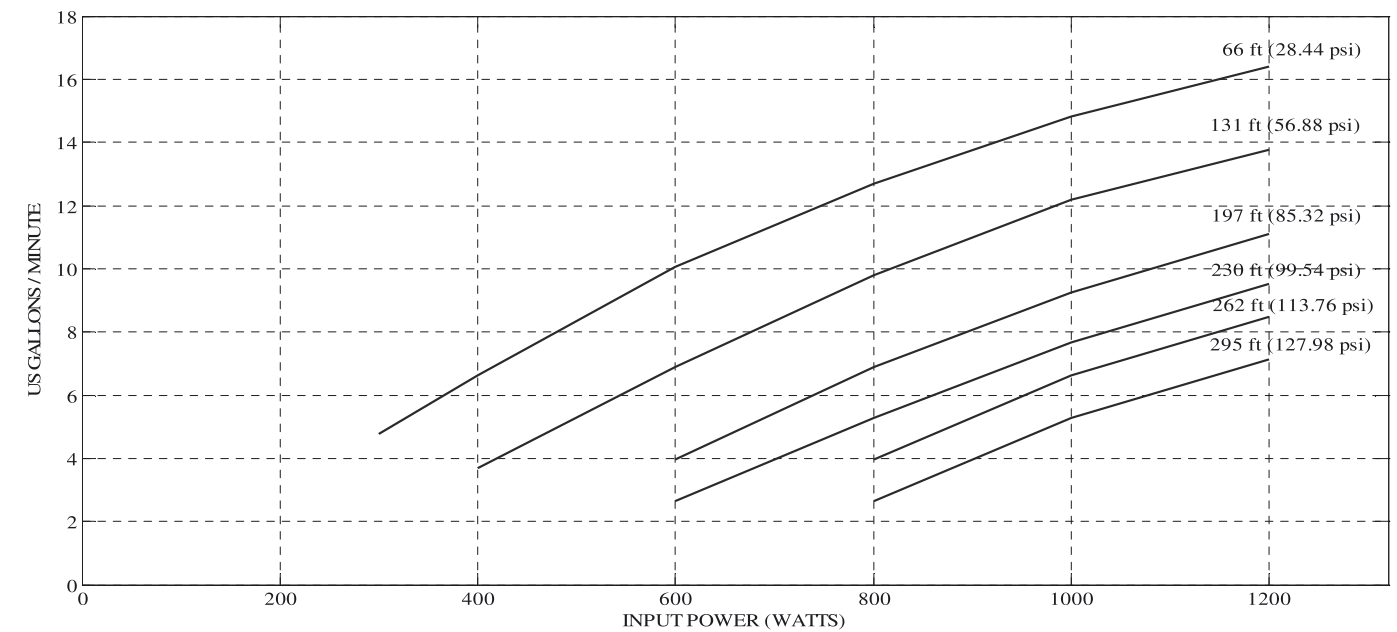
**MOTOR 1 HP**  
**120 VOLT MOTOR - (4"X4") - NPT 1.25"**  
**MAXIMUM OD 4" - MATERIAL CODE 9500000127**



	INPUT POWER (WATTS)					
	1200	1000	800	600	400	300
HEAD(ft)	FLOW RATE (US GALLONS / MINUTE)					
66	23	20	17	13	9	6
98	20	17	14	10	6	0
131	17	15	11	7	3	
164	15	12	8	4		

### PUMP PERFORMANCE SSP1200-230-2.6

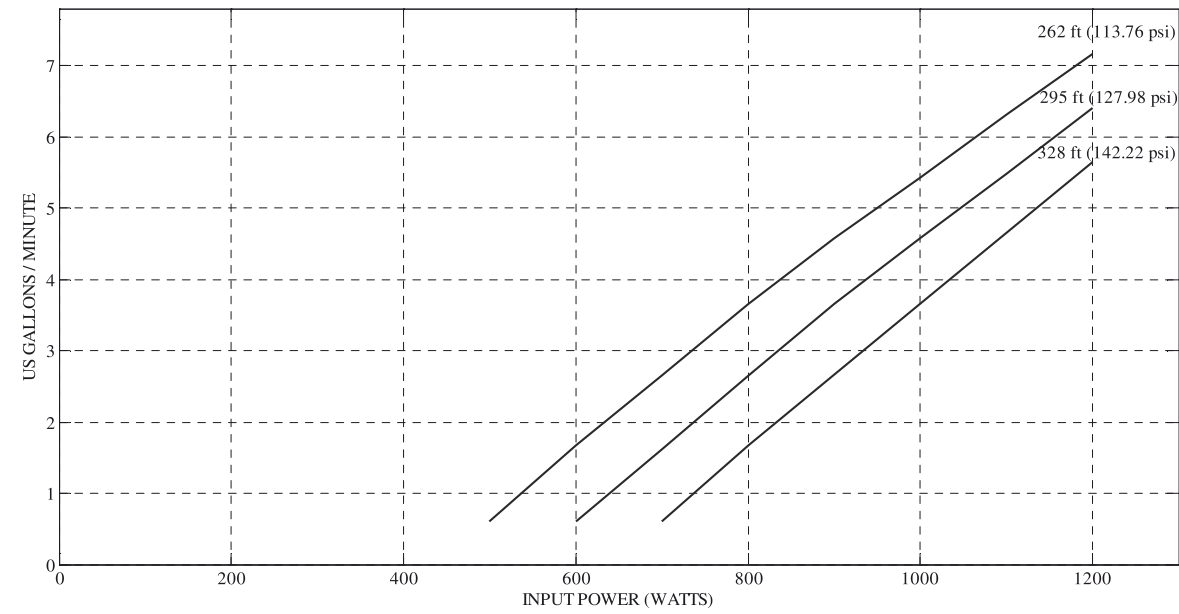
**MOTOR 1 HP**  
**120 VOLT MOTOR - (4"X4") - NPT 1.25"**  
**MAXIMUM OD 4" - MATERIAL CODE 9500000128**



	INPUT POWER (WATTS)					
	1200	1000	800	600	400	300
HEAD(ft)	FLOW RATE (US GALLONS / MINUTE)					
66	16	15	13	10	7	5
131	14	12	10	7	4	
197	11	9	7	4		
230	10	8	5	3		
262	9	7	4			
295	7	5	3			

### PUMP PERFORMANCE SSP1200-295-1.6

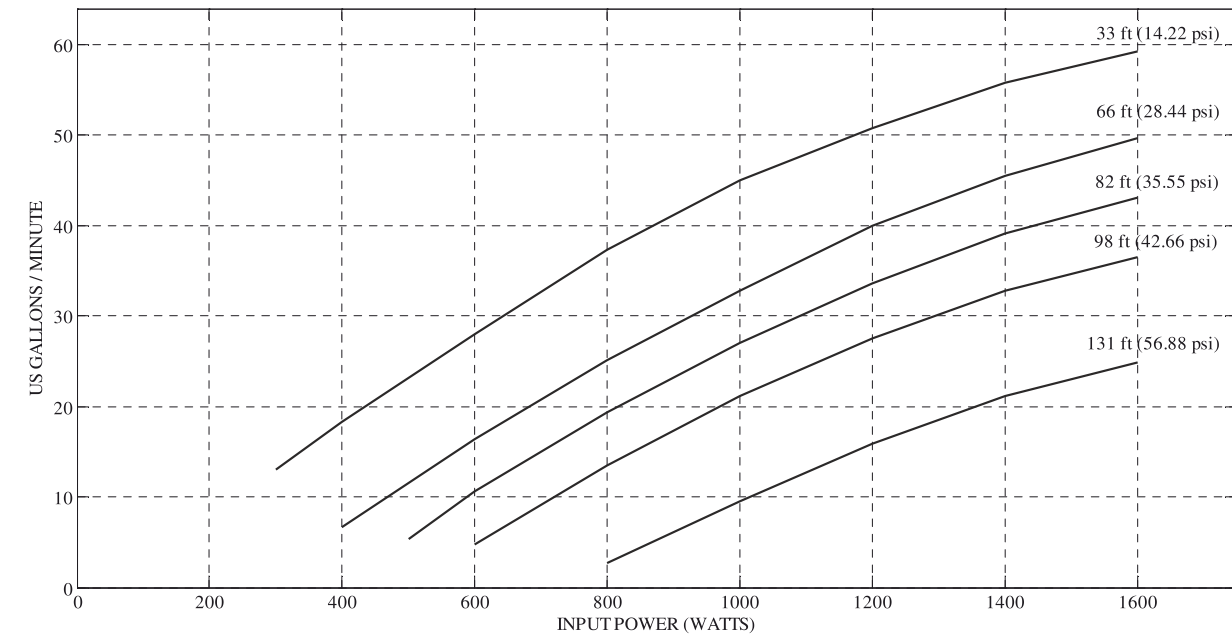
**MOTOR 1 HP**  
**200 VOLT MOTOR - (4"X4") - NPT 1.25"**  
**MAXIMUM OD 4" - MATERIAL CODE 9500000129**



	INPUT POWER (WATTS)							
	1200	1100	1000	900	800	700	600	500
HEAD(ft)	FLOW RATE (US GALLONS / MINUTE)							
262	6	6	5	4	3	2	2	1
295	6	5	4	3	2	1	1	
328	5	3	1	1				

### PUMP PERFORMANCE SSP1500-82-9.5

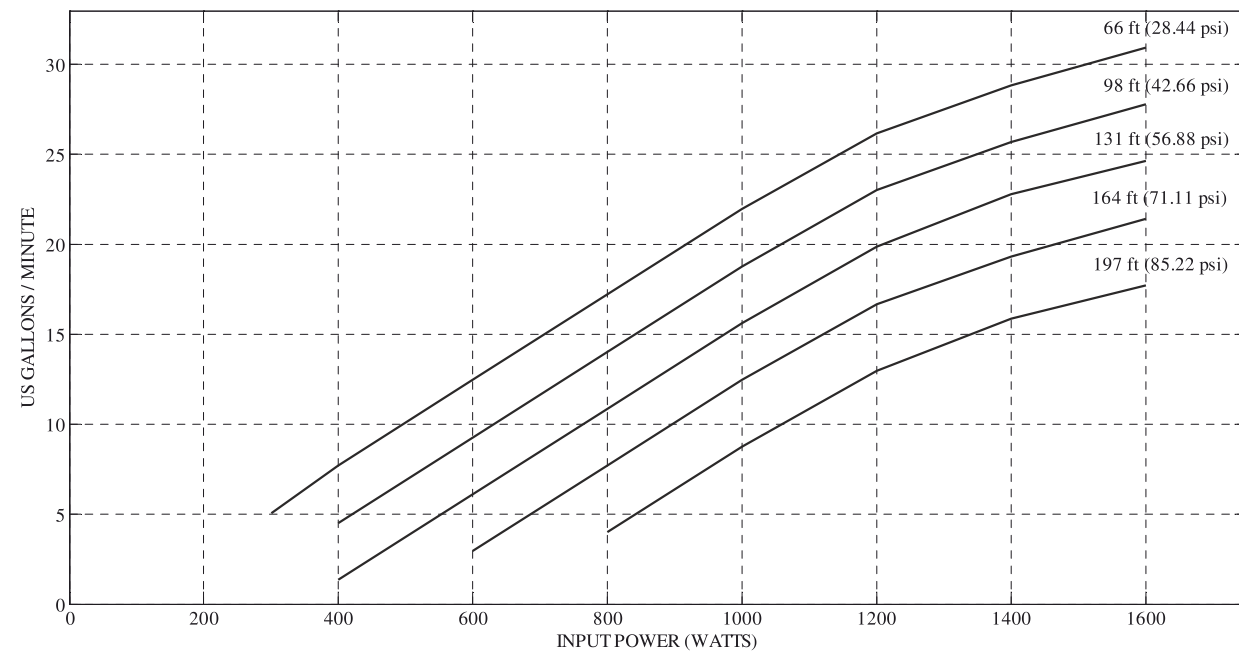
**MOTOR 1.5 HP**  
**120 VOLT MOTOR - (4"X4") - NPT 2"**  
**MAXIMUM OD 4" - MATERIAL CODE 9500000130**



	INPUT POWER (WATTS)							
	1600	1400	1200	1000	800	600	400	300
HEAD(ft)	FLOW RATE (US GALLONS / MINUTE)							
33	59	56	51	45	37	28	18	13
66	50	45	40	33	25	16	7	
82	43	39	34	27	19	11		
98	37	33	28	21	14	5		
131	25	21	16	10	3			

**PUMP PERFORMANCE SSP1500-131-5.8**

**MOTOR 1.5 HP**  
**160 VOLT MOTOR - (4"X4") - NPT 1.50"**  
**MAXIMUM OD 6" - MATERIAL CODE 9500000131**

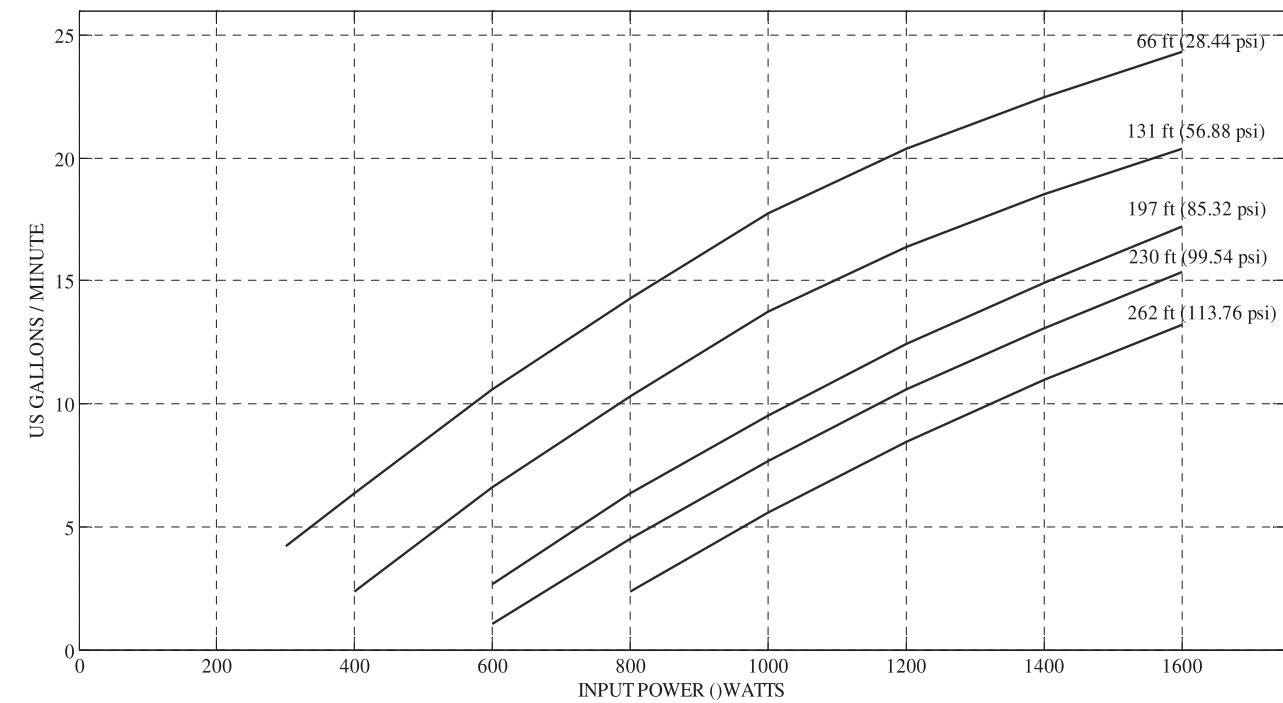


	INPUT POWER (WATTS)							
	1600	1400	1200	1000	800	600	400	300
HEAD(ft)	FLOW RATE (US GALLONS / MINUTE)							
66	31	29	26	22	17	12	8	5
98	28	26	23	19	14	9	5	
131	25	23	20	16	11	6	1	
164	21	19	17	12	8	3		
197	18	16	13	9	3			



**PUMP PERFORMANCE SSP1500-230-3.4**

**MOTOR 1.5 HP**  
**160 VOLT MOTOR - (4"X4") - NPT 1.25"**  
**MAXIMUM OD 4" - MATERIAL CODE 9500000132**

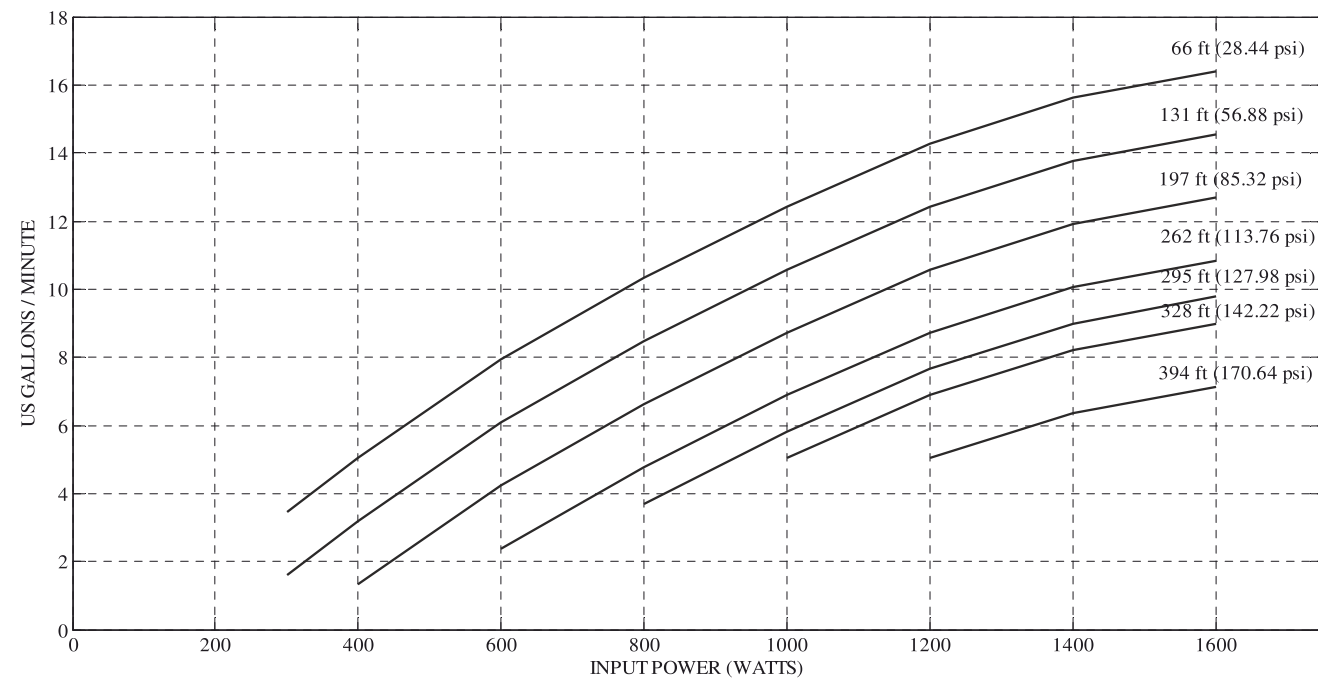


	INPUT POWER (WATTS)							
	1600	1400	1200	1000	800	600	400	300
HEAD(ft)	FLOW RATE (US GALLONS / MINUTE)							
66	24	23	20	18	14	11	6	4
131	20	19	16	14	10	7	2	
197	16	15	12	10	6	3		
230	15	13	11	8	5	1		
262	12	11	9	6	2			



**PUMP PERFORMANCE SSP1500-295-2**

**MOTOR 1.5 HP**  
**160 VOLT MOTOR - (4"X4") - NPT 1.25"**  
**MAXIMUM OD 4" - MATERIAL CODE 9500000133**

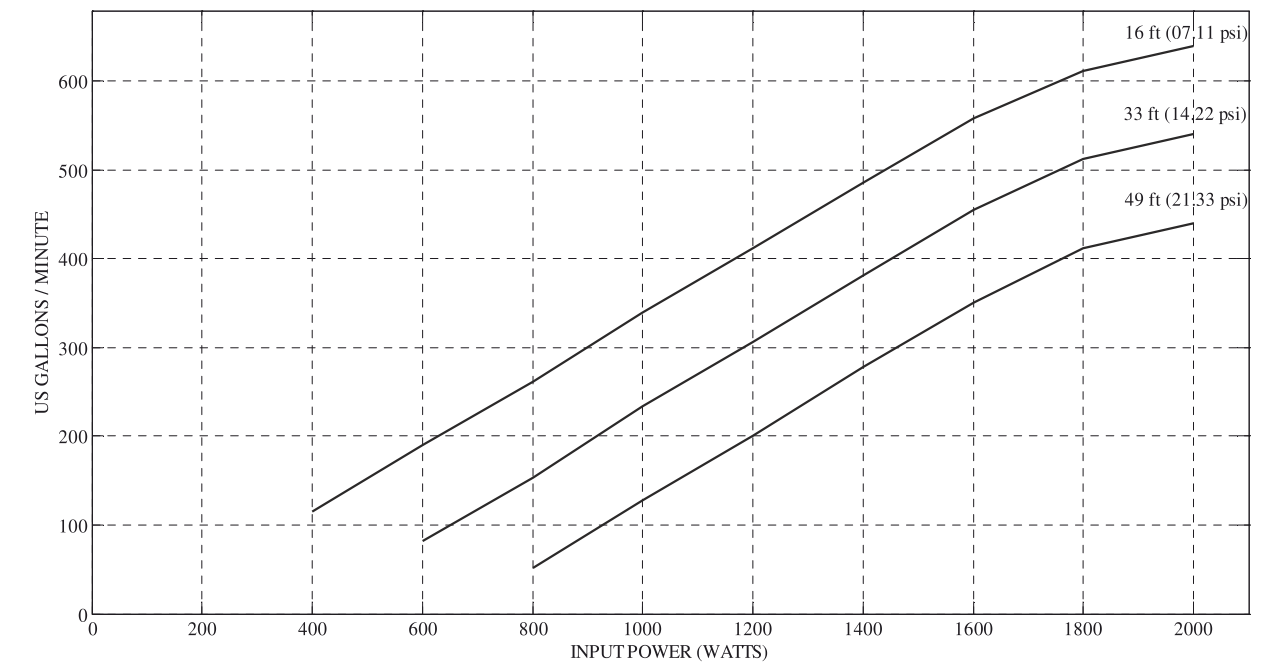


	INPUT POWER (WATTS)							
	1600	1400	1200	1000	800	600	400	300
<b>HEAD(ft)</b>	<b>FLOW RATE (US GALLONS / MINUTE)</b>							
66	16	16	14	12	10	8	5	3
131	15	14	12	11	9	9	3	2
197	13	12	11	9	7	4	1	
262	11	10	9	7	5	2		
295	10	9	8	6	4			
328	9	8	7	5				
394	7	6	5					



**PUMP PERFORMANCE SSP2000-33-24.6**

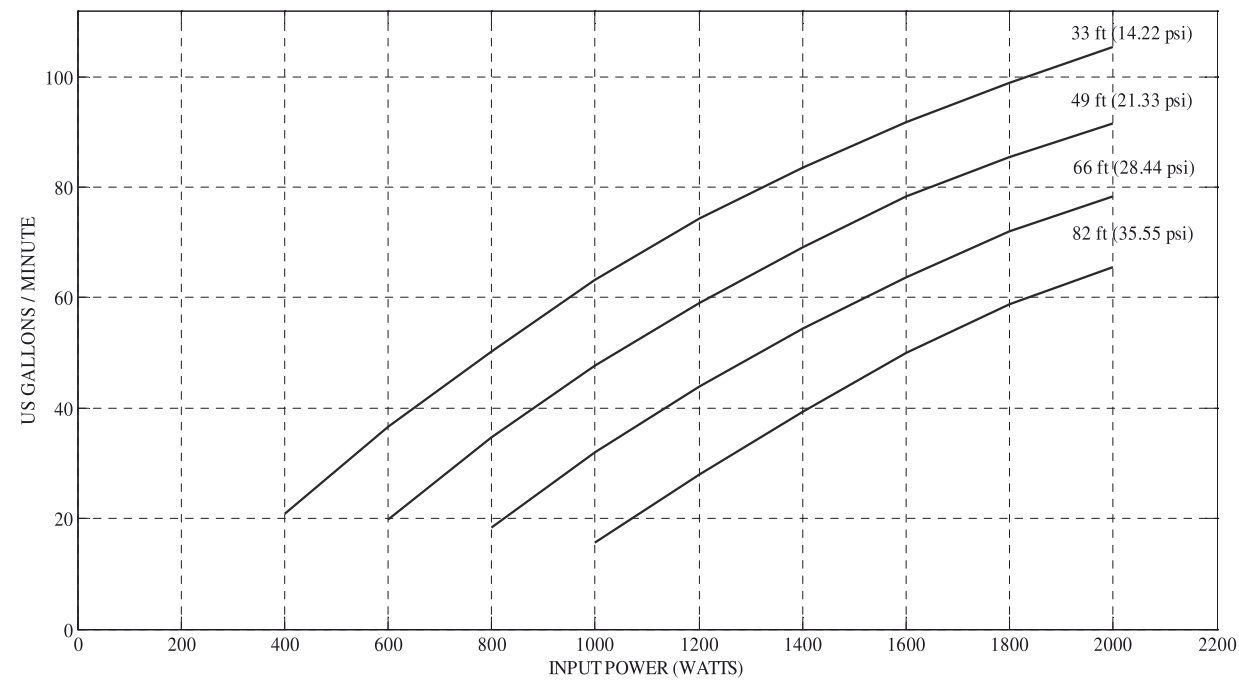
**MOTOR 2 HP**  
**160 VOLT MOTOR - (4"X6") - NPT 2.50"**  
**MAXIMUM OD 6" - MATERIAL CODE 9500000134**



	INPUT POWER (WATTS)								
	2000	1800	1600	1400	1200	1000	800	600	400
<b>HEAD(ft)</b>	<b>FLOW RATE (US GALLONS / MINUTE)</b>								
16	169	162	148	128	109	90	69	50	30
33	143	135	120	101	81	62	41	22	
49	116	109	93	73	53	34	14		

**PUMP PERFORMANCE SSP2000-66-13.8**

**MOTOR 2 HP  
160 VOLT MOTOR - (4"X6") - NPT 2"  
MAXIMUM OD 6" - MATERIAL CODE 9500000135**

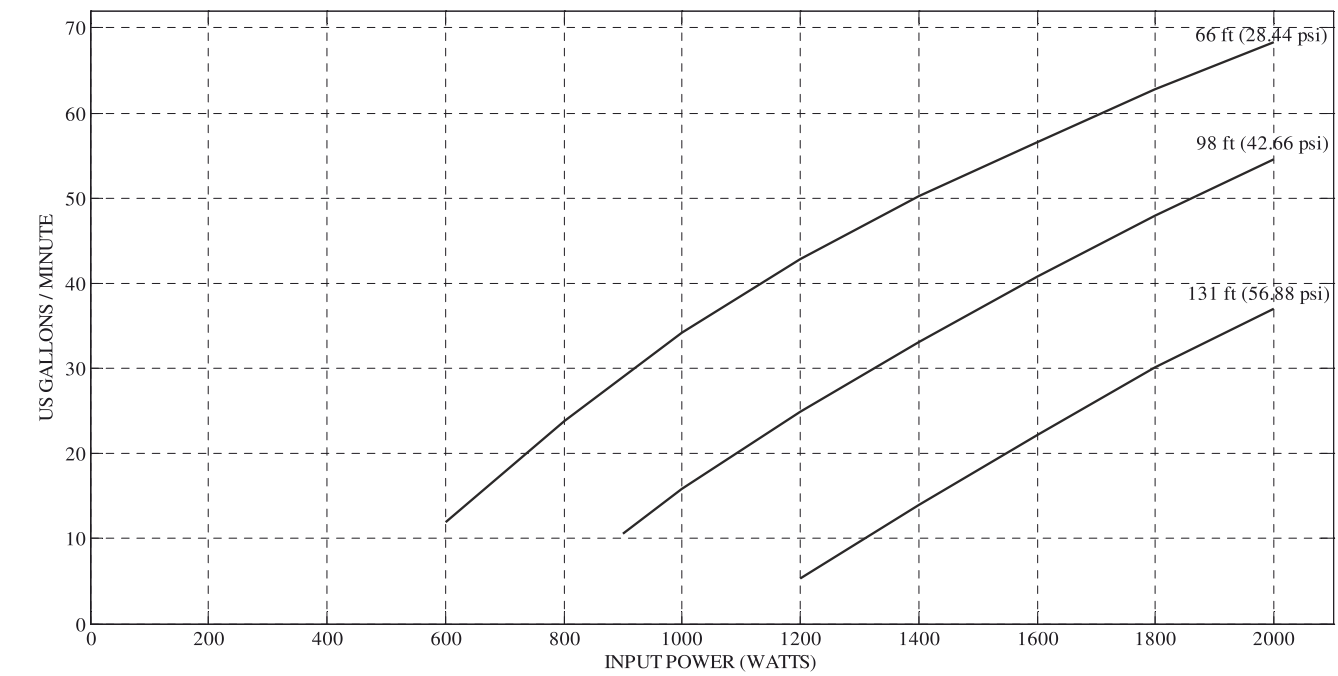


	INPUT POWER (WATTS)								
	2000	1800	1600	1400	1200	1000	800	600	400
HEAD(ft)	FLOW RATE (US GALLONS / MINUTE)								
33	105	99	92	84	74	63	50	37	21
49	91	85	78	69	59	48	35	20	
66	78	72	64	54	44	32	18		
82	66	59	50	39	28	16			



**PUMP PERFORMANCE SSP2000-98-9.8**

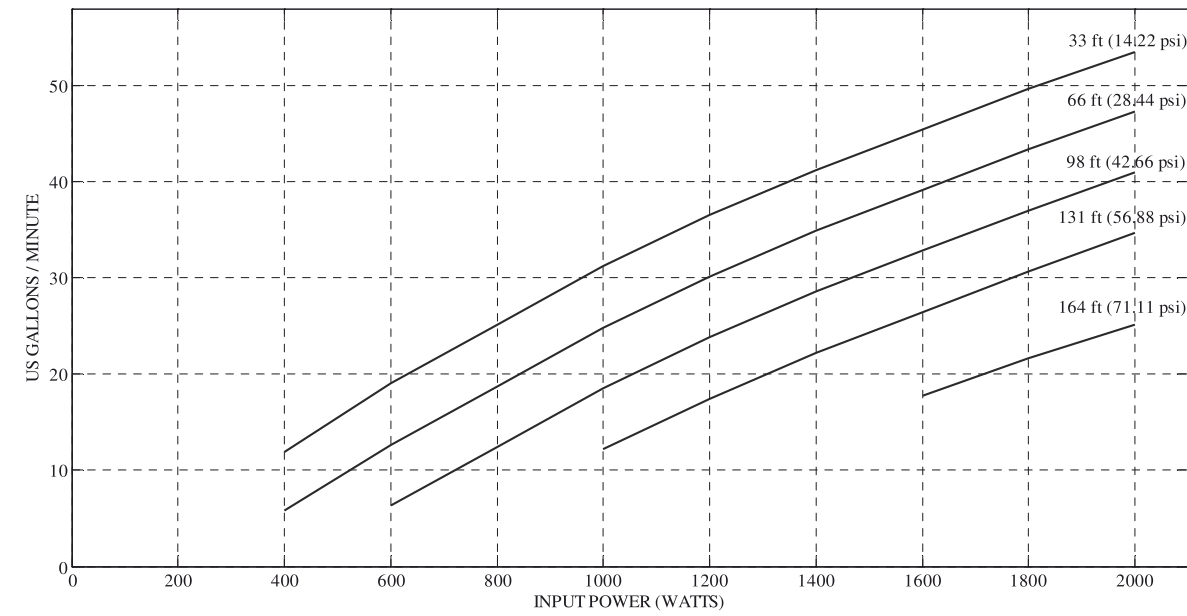
**MOTOR 2 HP  
160 VOLT MOTOR - (4"X6") - NPT 2"  
MAXIMUM OD 6" - MATERIAL CODE 9500000136**



	INPUT POWER (WATTS)							
	2000	1800	1600	1400	1200	1000	800	600
HEAD(ft)	FLOW RATE (US GALLONS / MINUTE)							
66	68	63	57	50	43	34	24	12
98	54	48	41	33	25	16	11	
131	37	30	22	14	5			

**PUMP PERFORMANCE SSP2000-131-6**

**MOTOR 2 HP**  
**160 VOLT MOTOR - (4"X4") - NPT 2"**  
**MAXIMUM OD 4" - MATERIAL CODE 9500000137**

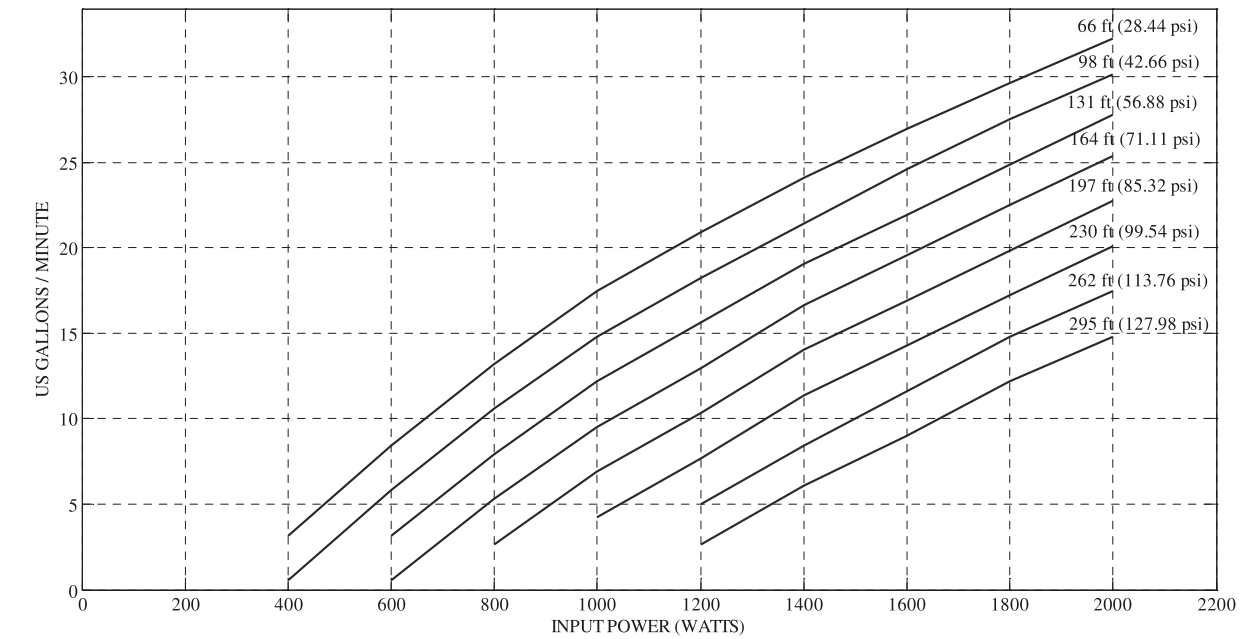


HEAD(ft)	INPUT POWER (WATTS)								
	2000	1800	1600	1400	1200	1000	800	600	400
	FLOW RATE (US GALLONS / MINUTE)								
33	53	50	45	41	37	31	25	19	12
66	47	43	39	35	30	25	19	13	6
98	41	37	33	29	24	19	12	6	
131	35	31	26	22	17	12			
164	25	22	18						



**PUMP PERFORMANCE SSP2000-197-4**

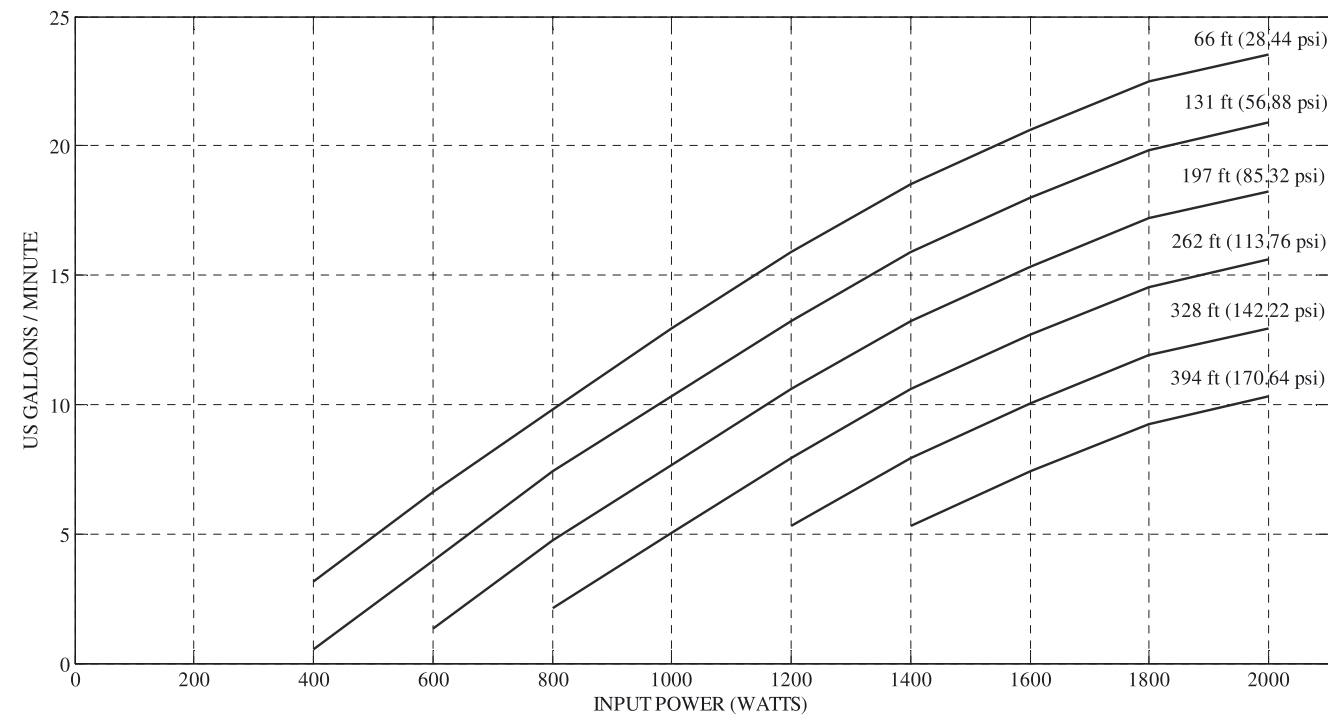
**MOTOR 2 HP**  
**160 VOLT MOTOR - (4"X4") - NPT 1.50"**  
**MAXIMUM OD 4" - MATERIAL CODE 9500000138**



HEAD(ft)	INPUT POWER (WATTS)								
	2000	1800	1600	1400	1200	1000	800	600	400
	FLOW RATE (US GALLONS / MINUTE)								
66	32	30	27	24	21	17	13	9	3
98	30	28	25	21	18	15	11	6	1
131	28	25	22	19	16	12	8	3	
164	25	23	20	17	13	10	5	1	
197	23	20	17	14	10	7	3		
230	20	17	14	11	8	4			
262	17	15	12	9	5				
295	15	12	9	6	3				

**PUMP PERFORMANCE SSP2000-262-2.6**

**MOTOR 2 HP**  
**160 VOLT MOTOR - (4"X4") - NPT 1.25"**  
**MAXIMUM OD 4" - MATERIAL CODE 9500000139**

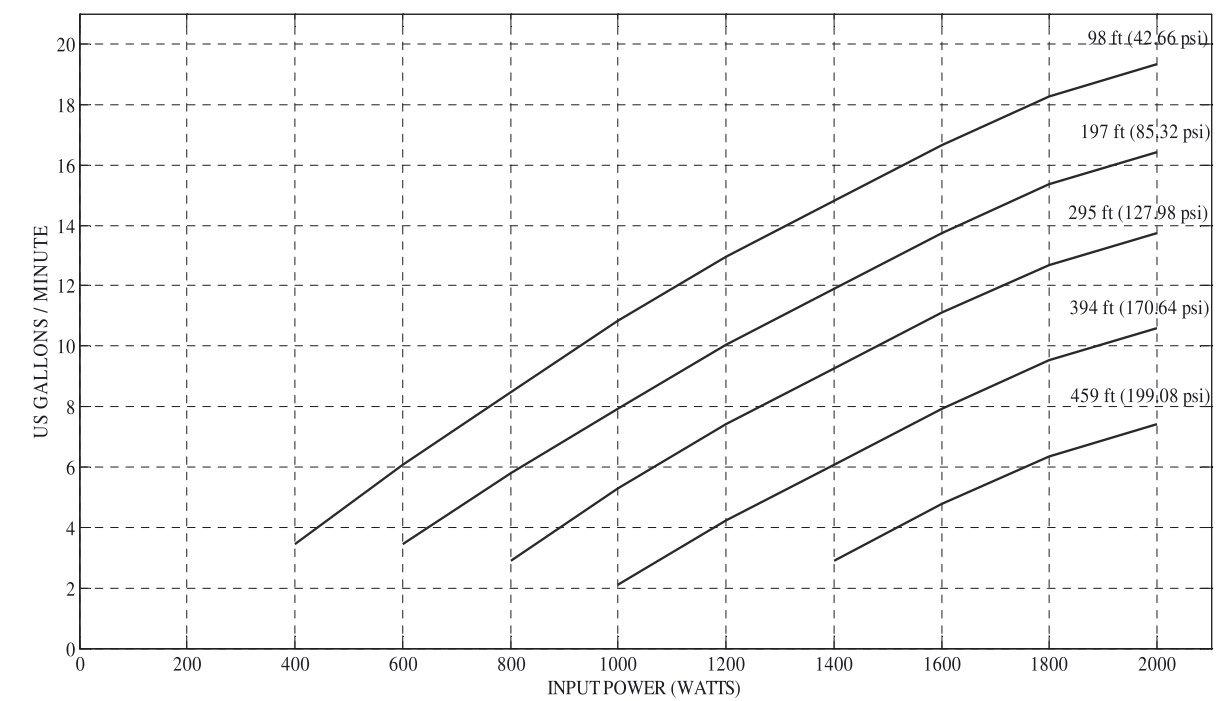


HEAD(ft)	INPUT POWER (WATTS)								
	2000	1800	1600	1400	1200	1000	800	600	400
	FLOW RATE (US GALLONS / MINUTE)								
66	24	23	21	19	16	13	10	7	3
131	21	20	18	16	13	10	7	4	1
197	18	17	15	13	11	8	5	1	
262	16	15	13	11	8	5	2		
328	13	12	10	8	5				
394	10	9	7	5					



**PUMP PERFORMANCE SSP2000-295-2.4**

**MOTOR 2 HP**  
**160 VOLT MOTOR - (4"X4") - NPT 1.25"**  
**MAXIMUM OD 4" - MATERIAL CODE 9500000140**



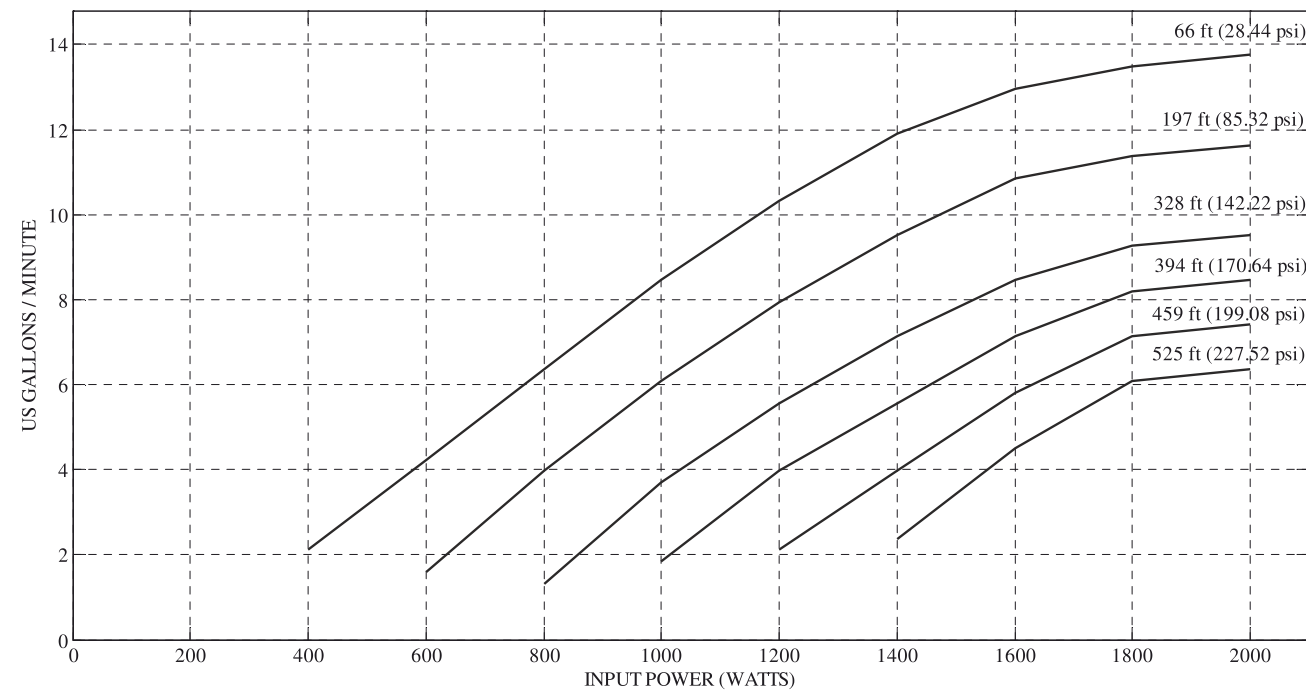
HEAD(ft)	INPUT POWER (WATTS)								
	2000	1800	1600	1400	1200	1000	800	600	400
	FLOW RATE (US GALLONS / MINUTE)								
98	19	18	17	15	13	11	9	6	3
197	16	15	14	12	10	8	6	3	
295	14	13	11	9	7	5	3		
394	11	10	8	6	4	2			
459	7	6	5	3					

**PUMP PERFORMANCE SSP2000-394-1.6**

**MOTOR 2 HP**

**160 VOLT MOTOR - (4"X4") - NPT 1.25"**

**MAXIMUM OD 4" - MATERIAL CODE 9500000141**



HEAD(ft)	INPUT POWER (WATTS)								
	2000	1800	1600	1400	1200	1000	800	600	400
	FLOW RATE (US GALLONS / MINUTE)								
66	14	14	13	12	10	9	6	4	2
197	12	11	11	10	8	6	4	2	
328	10	9	9	7	6	4	1		
394	9	8	7	6	4	2			
459	7	7	6	4	2				
525	6	6	5	2					

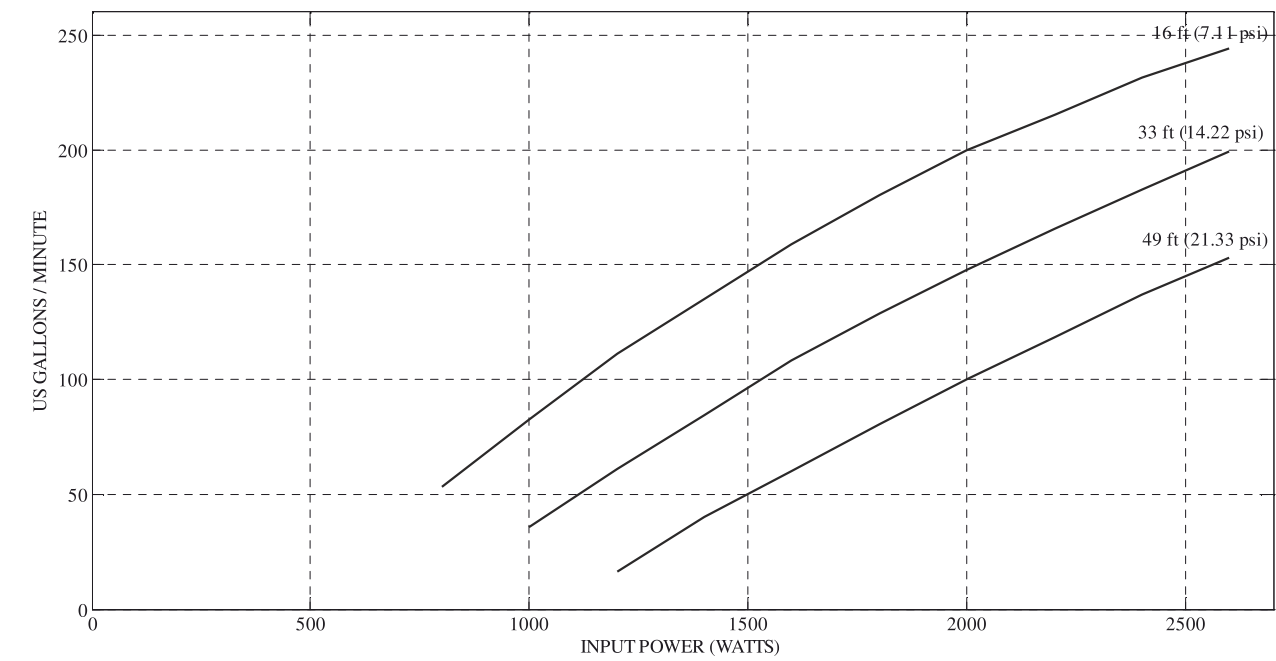


**PUMP PERFORMANCE SSP2600-33-27.5**

**MOTOR 3 HP**

**230 VOLT MOTOR - (6"X6") - NPT 3.0"**

**MAXIMUM OD 6" - MATERIAL CODE 9500000142**

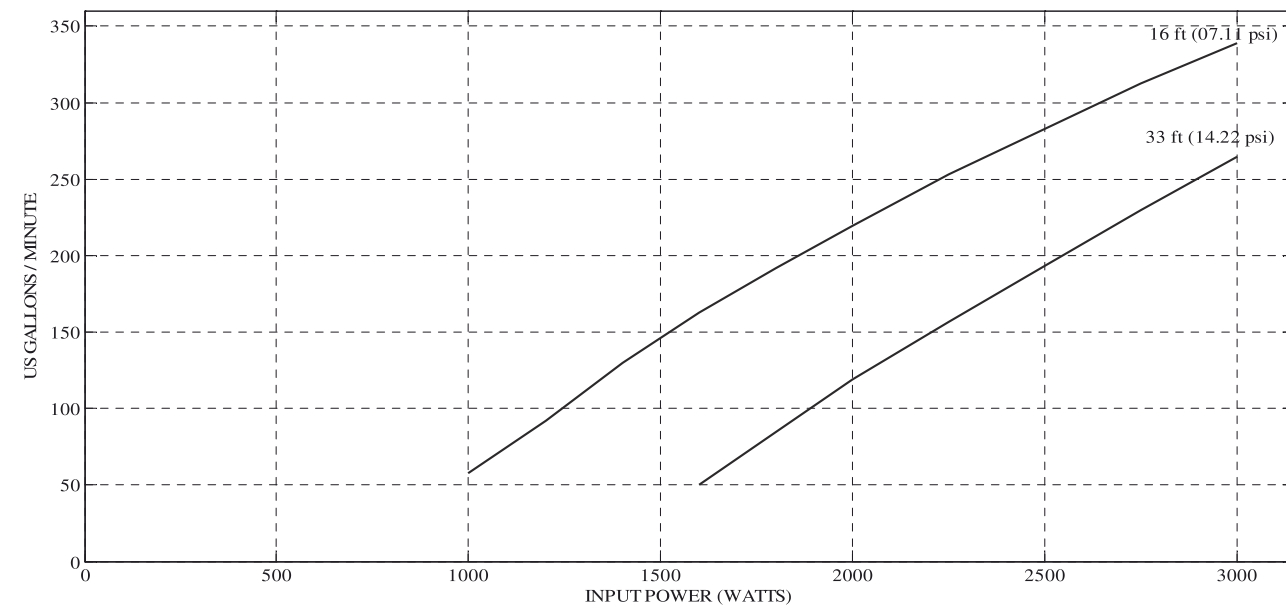


HEAD(ft)	INPUT POWER (WATTS)									
	2600	2400	2200	2000	1800	1600	1400	1200	1000	800
	FLOW RATE (US GALLONS / MINUTE)									
16	244	231	215	200	180	159	135	111	82	53
33	199	183	166	148	128	108	85	61		
49	153	137	118	100	81	60	40			



### PUMP PERFORMANCE SSP3000-33-31.7

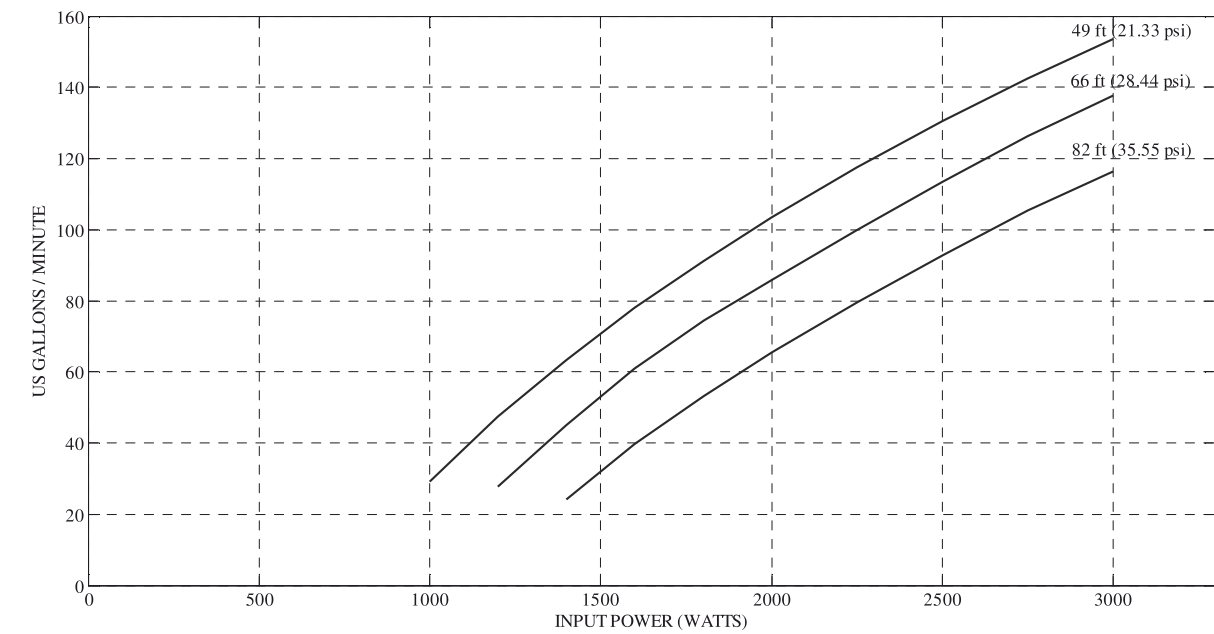
**MOTOR 3 HP**  
**230 VOLT MOTOR – (6"X6") – NPT 4.0"**  
**MAXIMUM OD 6" – MATERIAL CODE 9500000143**



HEAD(ft)	INPUT POWER (WATTS)									
	3000	2750	2500	2250	2000	1800	1600	1400	1200	1000
	FLOW RATE (US GALLONS / MINUTE)									
16	244	231	215	200	180	159	135	111	82	53
33	199	183	166	148	128	108	85	61		

### PUMP PERFORMANCE SSP3000-66-16.4

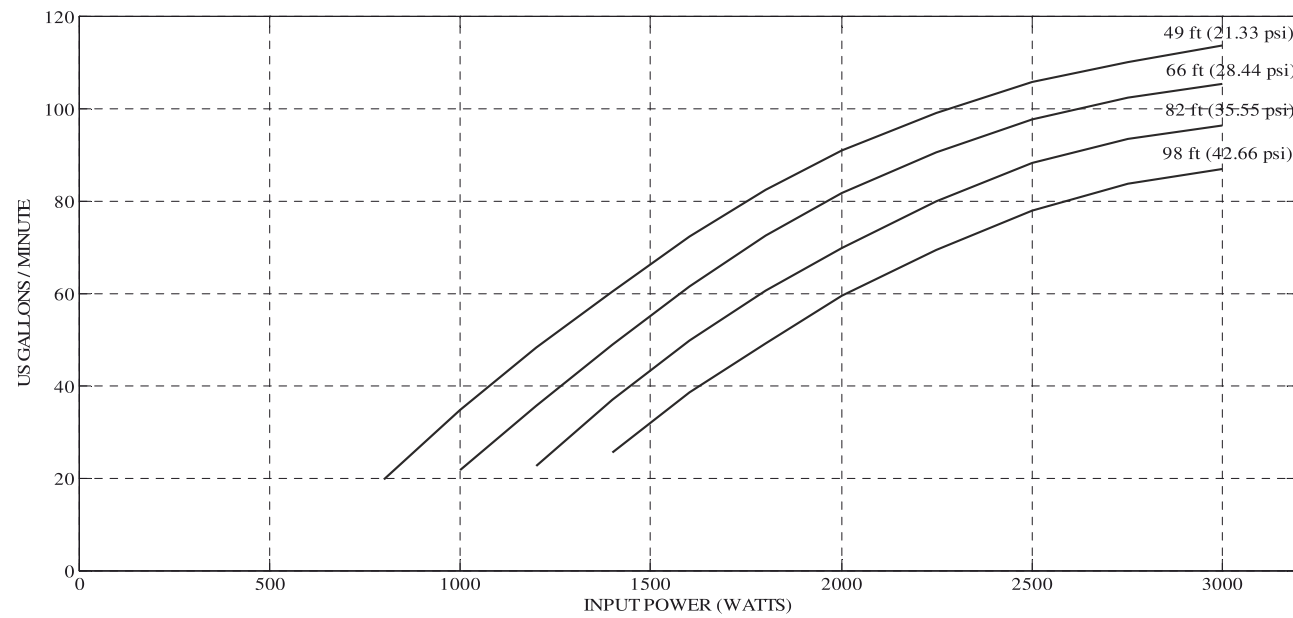
**MOTOR 3 HP**  
**230 VOLT MOTOR – (6"X6") – NPT 2.50"**  
**MAXIMUM OD 6" – MATERIAL CODE 9500000144**



HEAD(ft)	INPUT POWER (WATTS)									
	3000	2750	2500	2250	2000	1800	1600	1400	1200	1000
	FLOW RATE (US GALLONS / MINUTE)									
49	153	142	130	117	103	91	78	63	48	29
66	137	126	113	100	86	74	61	45	28	
82	116	105	93	80	65	53	40	24		

**PUMP PERFORMANCE SSP3000-82-1 1.6**

**MOTOR 3 HP**  
**230 VOLT MOTOR – (6"X6") – NPT 2"**  
**MAXIMUM OD 6" – MATERIAL CODE 9500000145**

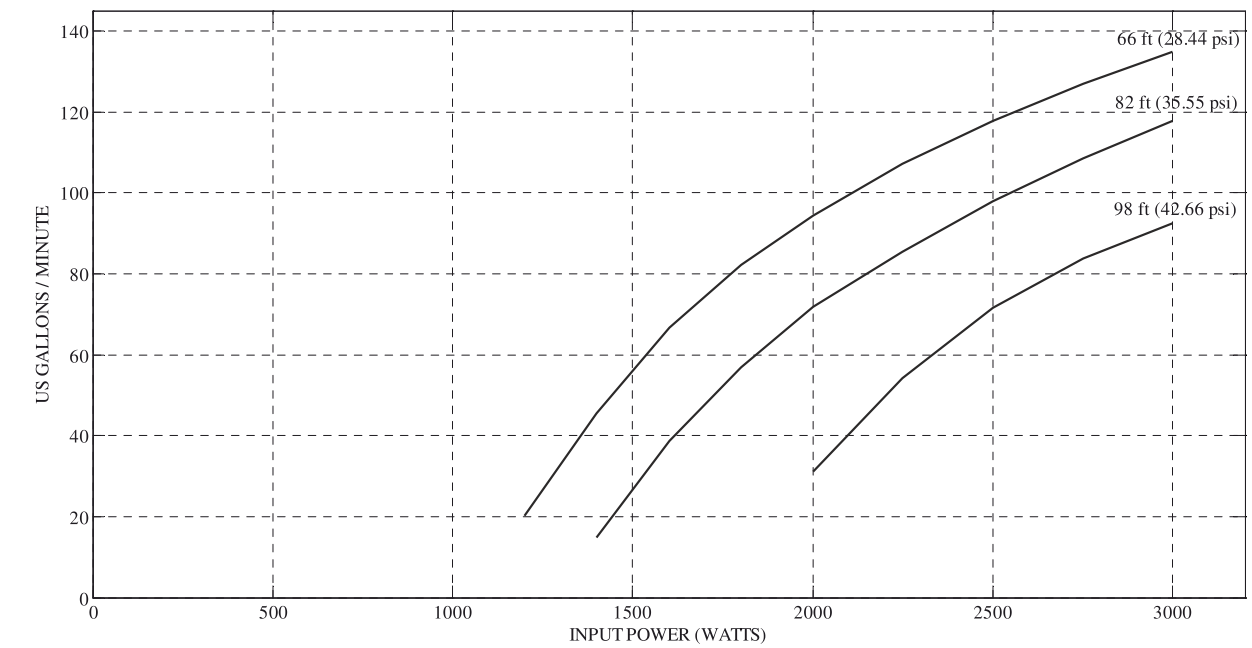


HEAD(ft)	INPUT POWER (WATTS)										
	3000	2750	2500	2250	2000	1800	1600	1400	1200	1000	800
	FLOW RATE (US GALLONS / MINUTE)										
49	113	110	106	99	91	82	72	60	48	35	20
66	105	102	98	90	82	72	61	49	36	22	
82	96	93	88	80	70	61	50	37	23		
98	87	84	78	69	59	49	39	25			



**PUMP PERFORMANCE SSP3000-98-1 1**

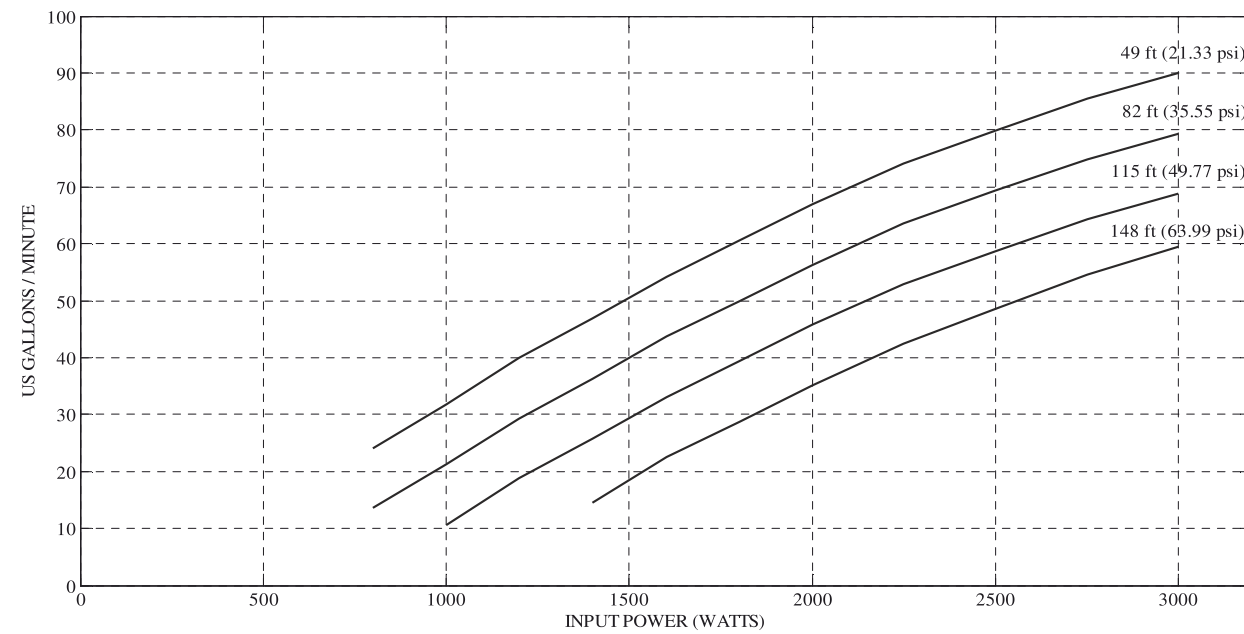
**MOTOR 3 HP**  
**230 VOLT MOTOR – (6"X6") – NPT 2.50"**  
**MAXIMUM OD 6" – MATERIAL CODE 9500000146**



HEAD(ft)	INPUT POWER (WATTS)									
	3000	2750	2500	2250	2000	1800	1600	1400	1200	
	FLOW RATE (US GALLONS / MINUTE)									
66	135	127	118	107	94	82	67	45	20	
82	118	108	98	85	72	57	39	15		
98	92	84	71	54	31					

**PUMP PERFORMANCE SSP3000-148-7**

**MOTOR 3 HP**  
**230 VOLT MOTOR – (6"X6") – NPT 2.0"**  
**MAXIMUM OD 6" – MATERIAL CODE 9500000147**

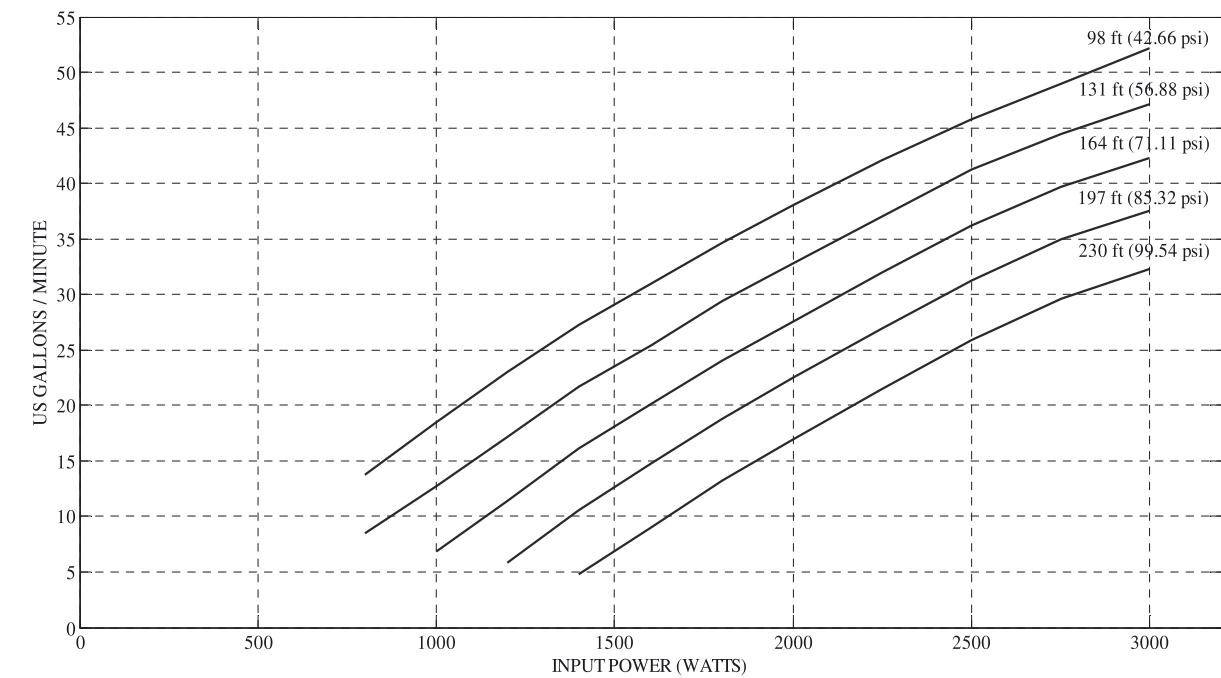


HEAD(ft)	INPUT POWER (WATTS)										
	3000	2750	2500	2250	2000	1800	1600	1400	1200	1000	800
	FLOW RATE (US GALLONS / MINUTE)										
49	90	85	80	74	67	61	54	47	40	32	24
82	79	75	69	63	56	50	44	36	29	21	14
115	69	64	59	53	46	39	33	26	19	11	
148	59	54	49	42	35	29	23	15			



**PUMP PERFORMANCE SSP3000-164-5**

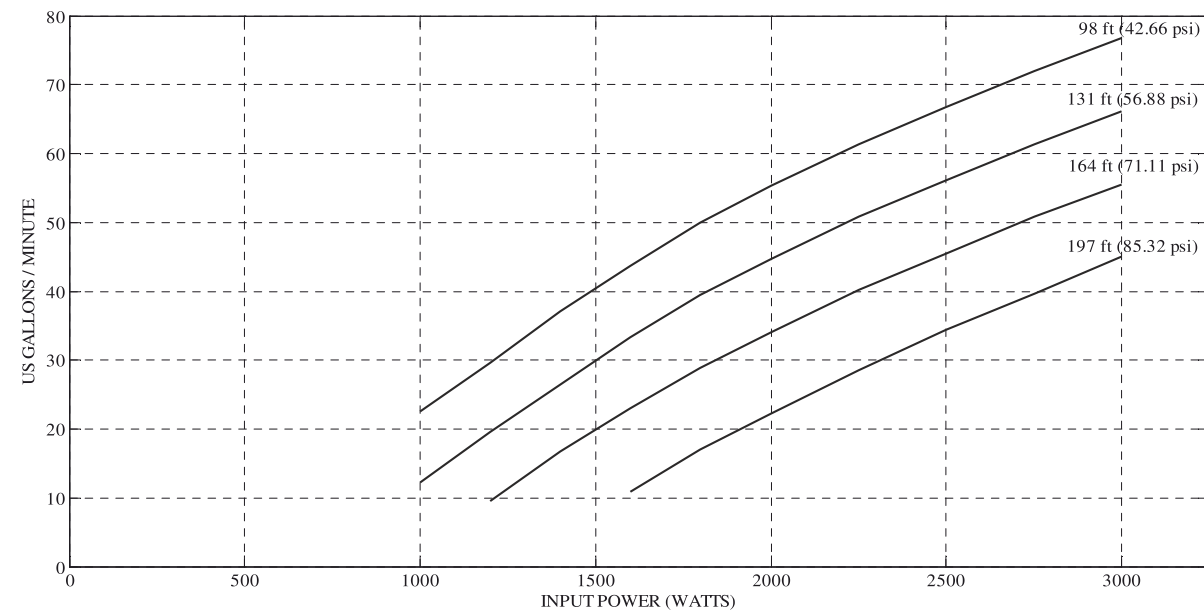
**MOTOR 3 HP**  
**230 VOLT MOTOR – (6"X4") – NPT 2"**  
**MAXIMUM OD 6" – MATERIAL CODE 9500000148**



HEAD(ft)	INPUT POWER (WATTS)										
	3000	2750	2500	2250	2000	1800	1600	1400	1200	1000	800
	FLOW RATE (US GALLONS / MINUTE)										
98	52	49	46	42	38	35	31	27	23	19	14
131	47	44	41	37	33	29	25	22	17	13	16
164	42	40	36	32	28	24	20	16	11	7	
197	38	35	31	27	23	19	15	11	6		
230	32	30	26	21	17	13	9	5			

**PUMP PERFORMANCE SSP3000-164-6.6**

**MOTOR 3 HP**  
**230 VOLT MOTOR - (6"X6") - NPT 2.0"**  
**MAXIMUM OD 6" - MATERIAL CODE 9500000149**

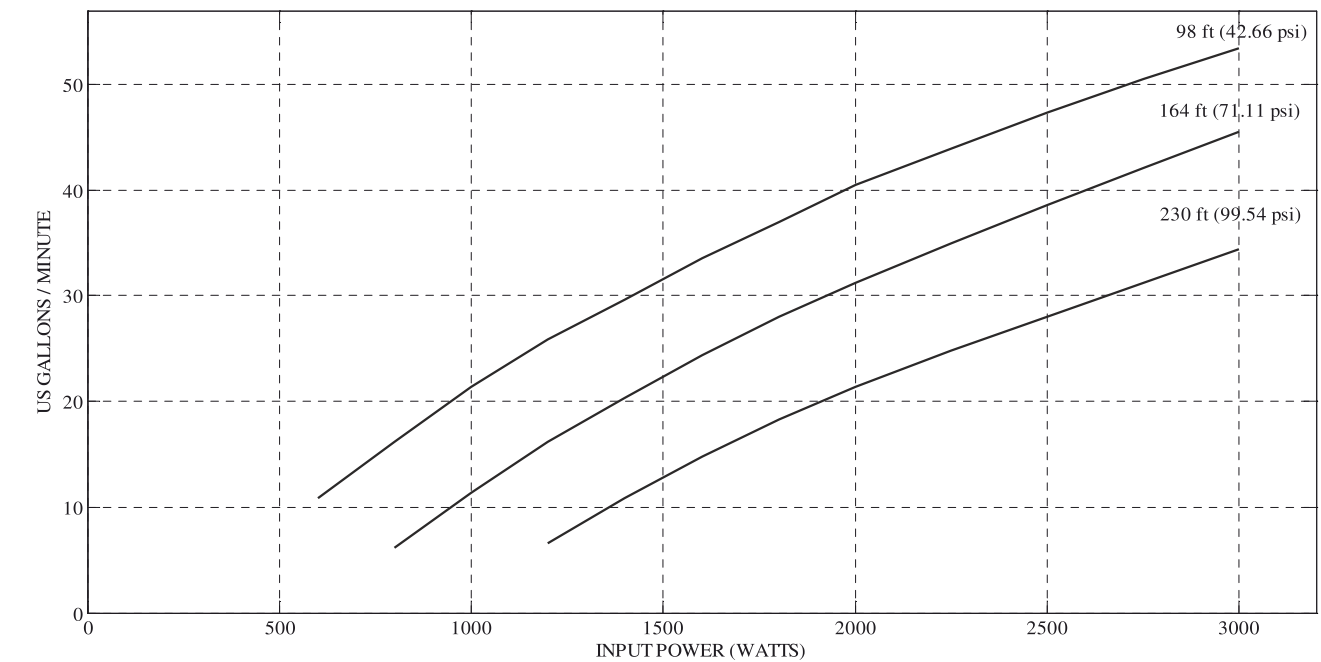


HEAD(ft)	INPUT POWER (WATTS)									
	3000	2750	2500	2250	2000	1800	1600	1400	1200	1000
98	77	72	67	61	55	50	44	37	30	23
131	66	61	56	51	45	39	33	26	20	12
164	56	51	45	40	34	29	23	17	10	
197	45	40	34	29	22	17	11			



**PUMP PERFORMANCE SSP3000-230-4**

**MOTOR 3 HP**  
**230 VOLT MOTOR - (6"X4") - NPT 2"**  
**MAXIMUM OD 6" - MATERIAL CODE 9500000150**



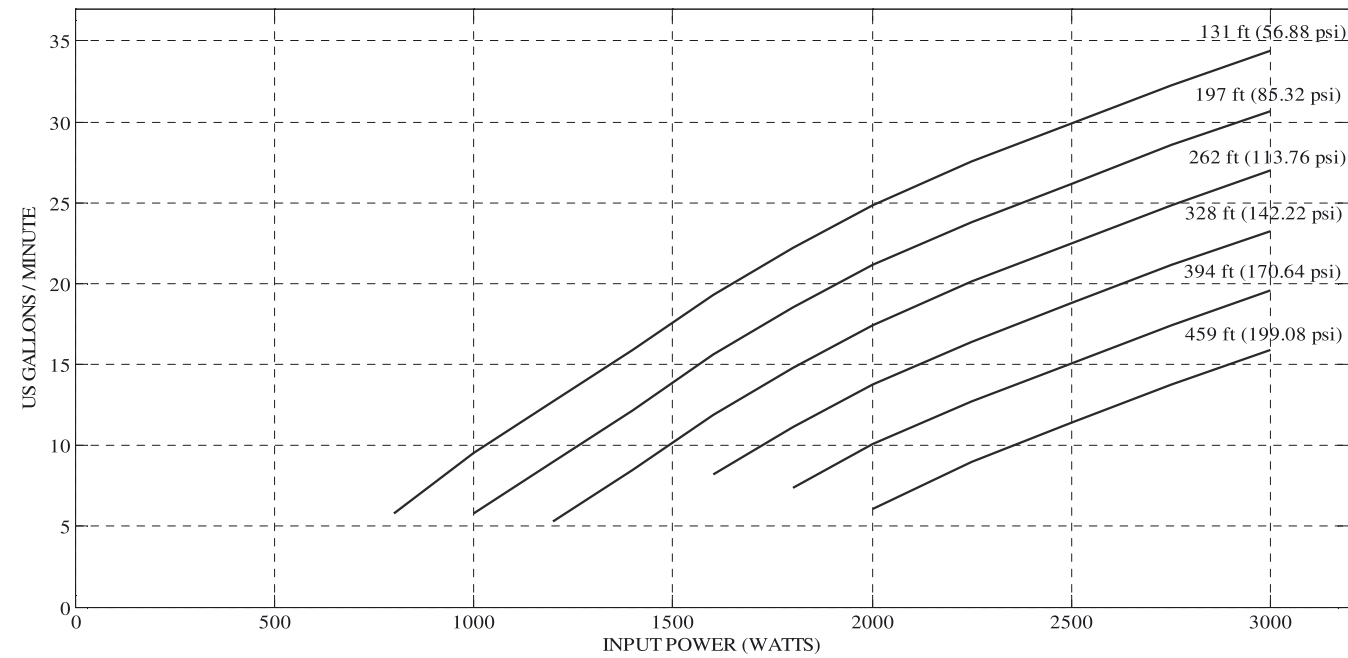
HEAD(ft)	INPUT POWER (WATTS)											
	3000	2750	2500	2250	2000	1800	1600	1400	1200	1000	800	600
98	53	51	47	44	40	37	34	30	26	21	16	11
164	45	42	39	35	31	28	24	20	16	11	6	
230	34	31	28	25	21	18	15	11	7			

**PUMP PERFORMANCE SSP3000-328-2.7**

**MOTOR 3 HP**

230 VOLT MOTOR – (6"X4") – NPT 1.50"

MAXIMUM OD 6" – MATERIAL CODE 9500000151



HEAD(ft)	INPUT POWER (WATTS)										
	3000	2750	2500	2250	2000	1800	1600	1400	1200	1000	800
131	34	32	30	28	25	22	19	16	13	10	6
197	31	29	26	24	21	19	16	12	9	6	
262	27	25	23	20	17	15	12	9	5		
328	23	21	19	16	14	11	8				
394	20	17	15	13	10	7					
459	16	14	11	9	6						

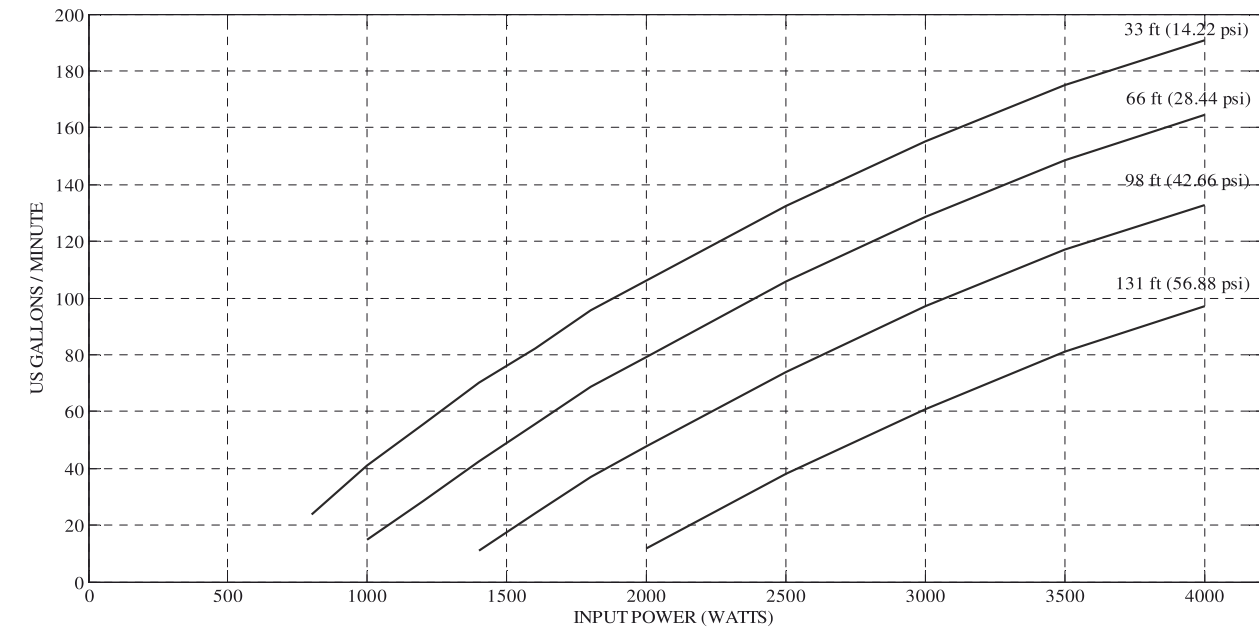


**PUMP PERFORMANCE SSP4000-98-1 1.8**

**MOTOR 4 HP**

340 VOLT MOTOR – (6"X6") – NPT 2.50"

MAXIMUM OD 6" – MATERIAL CODE 9500000152

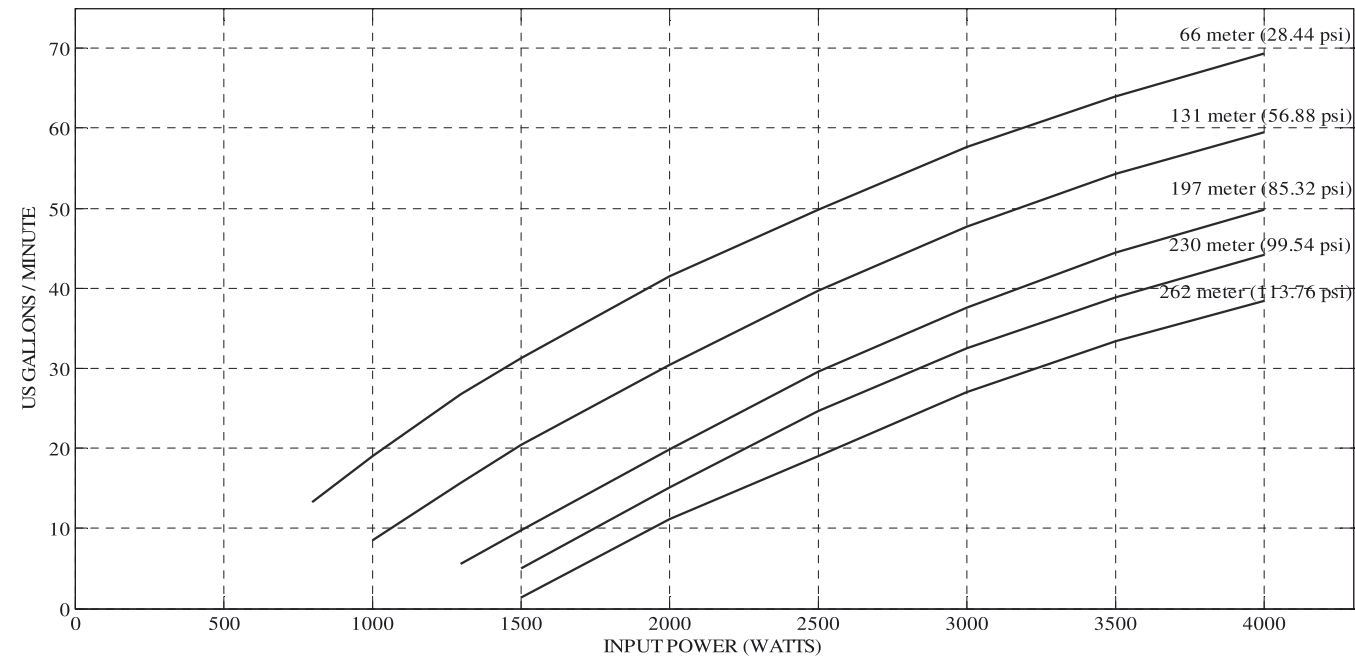


HEAD(ft)	INPUT POWER (WATTS)										
	4000	3500	3000	2500	2000	1800	1600	1400	1200	1000	800
33	191	175	155	132	106	96	82	70	56	41	24
66	164	149	128	106	79	69	56	42	29	15	
98	133	117	97	74	48	37	24	11			
131	97	81	61	38	12						



**PUMP PERFORMANCE SSP4000-230-4**

**MOTOR 4 HP**  
**340 VOLT MOTOR – (6"X4") – NPT 2"**  
**MAXIMUM OD 6" – MATERIAL CODE 9500000153**

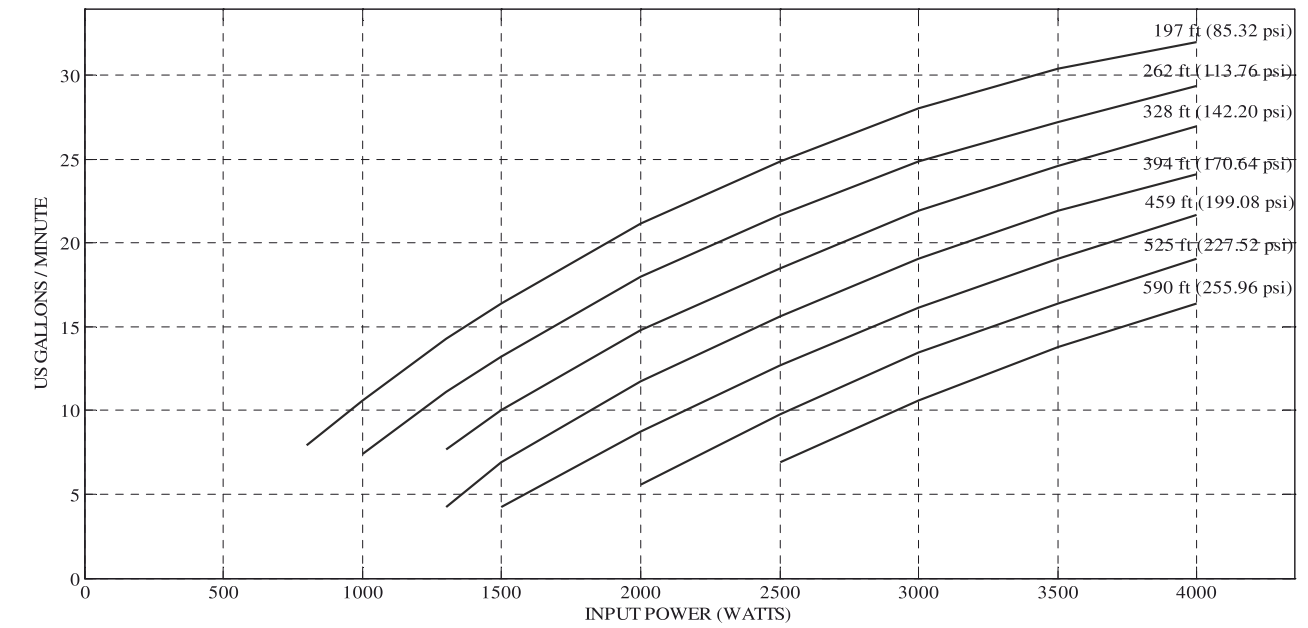


	INPUT POWER (WATTS)								
	4000	3500	3000	2500	2000	1500	1300	1000	800
HEAD(ft)	FLOW RATE (US GALLONS / MINUTE)								
66	69	64	58	50	42	31	27	19	13
131	59	54	48	40	30	20	16	9	
197	50	44	38	30	20	10	6		
230	44	39	33	25	15	5			
262	38	33	27	19	11	1			



**PUMP PERFORMANCE SSP4000-394-2**

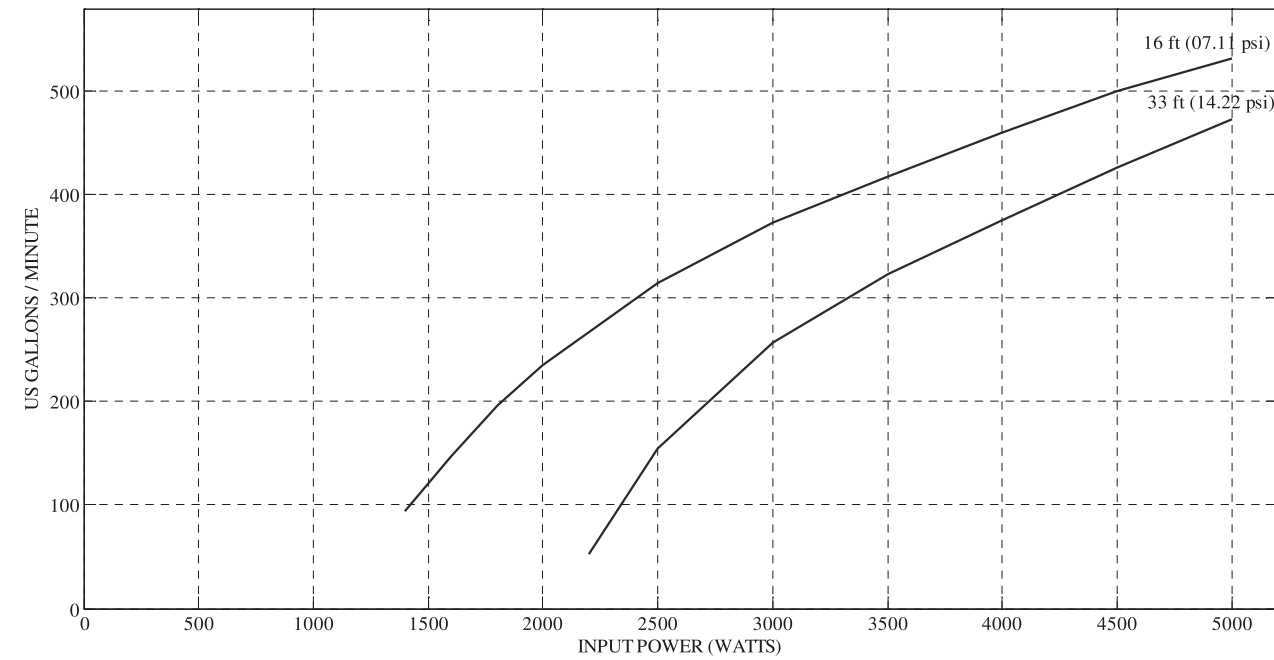
**MOTOR 4 HP**  
**340 VOLT MOTOR – (6"X4") – NPT 1.50"**  
**MAXIMUM OD 6" – MATERIAL CODE 9500000154**



	INPUT POWER (WATTS)								
	4000	3500	3000	2500	2000	1500	1300	1000	800
HEAD(ft)	FLOW RATE (US GALLONS / MINUTE)								
197	32	30	28	25	21	16	14	11	8
262	29	27	25	22	18	13	11	7	
328	27	25	22	19	15	10	8		
394	24	22	19	16	13	9	4		
459	22	19	16	13	9	4			
525	19	16	14	10	6				
590	16	14	11	7					

**PUMP PERFORMANCE SSP5000-33-34**

**MOTOR 5 HP**  
**380 VOLT MOTOR – (6"X8") – NPT 4"**  
**MAXIMUM OD 8" – MATERIAL CODE 9500000155**

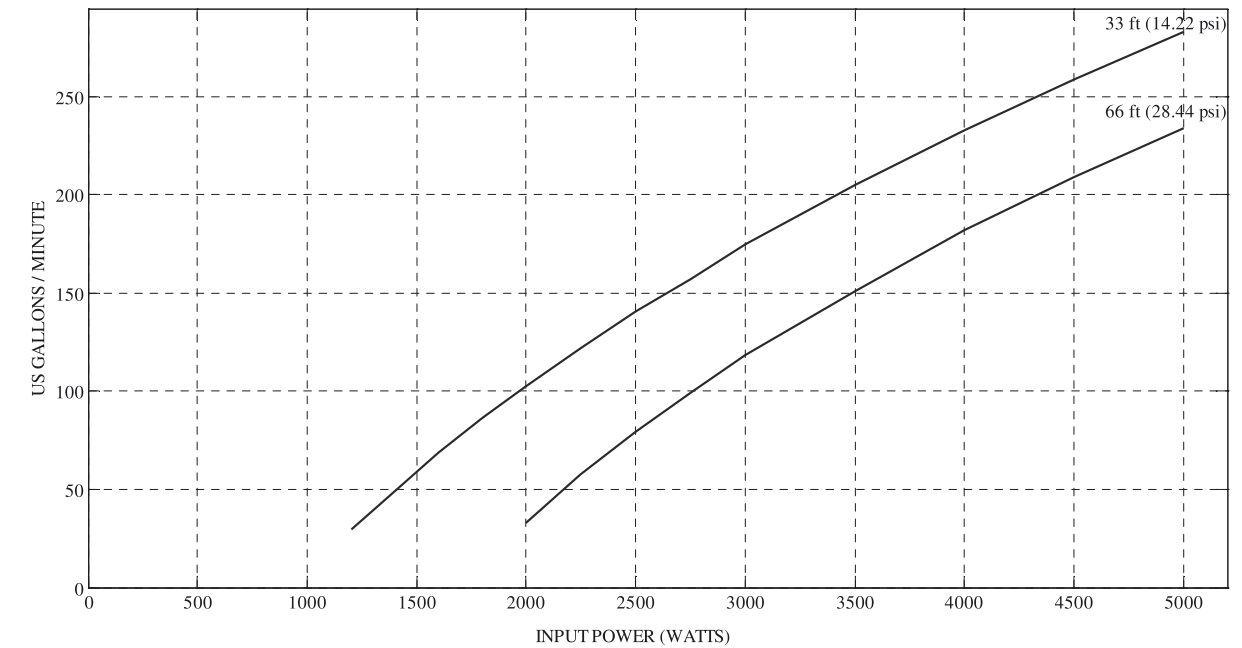


HEAD(ft)	INPUT POWER (WATTS)										
	5000	4500	4000	3500	3000	2500	2300	2000	1800	1600	1400
16	532	500	460	418	373	315	286	235	196	147	94
33	474	426	376	323	257	155	53				



**PUMP PERFORMANCE SSP5000-66-16.8**

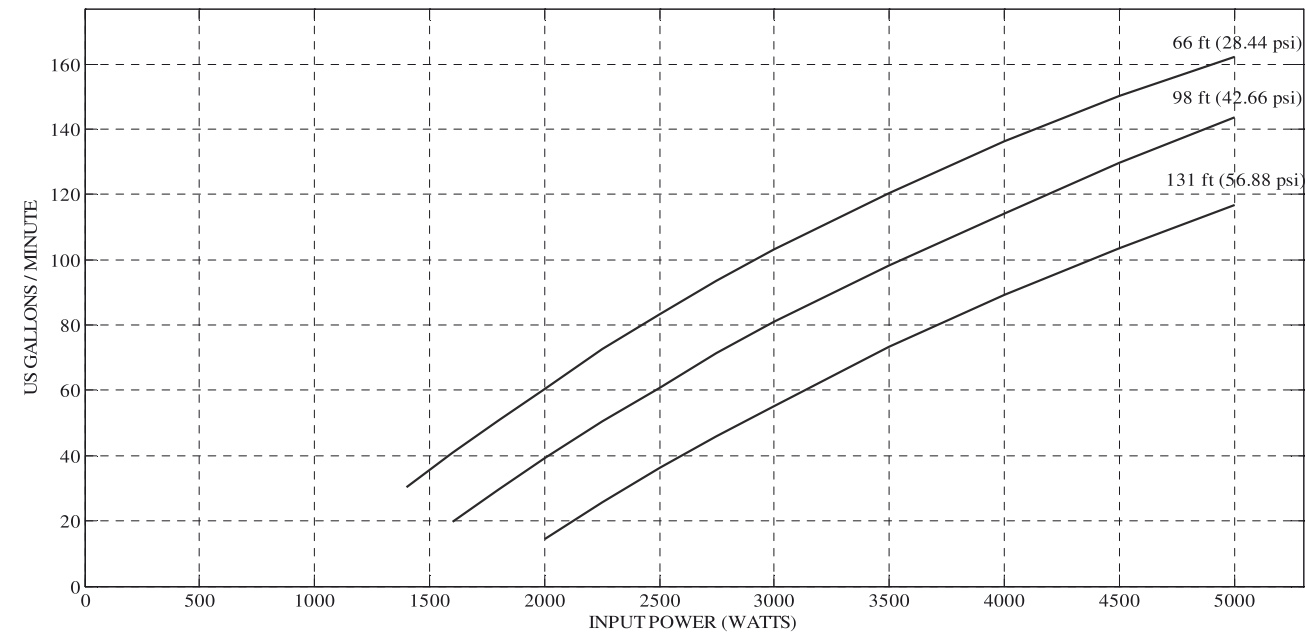
**MOTOR 5 HP**  
**380 VOLT MOTOR – (6"X6") – NPT 3"**  
**MAXIMUM OD 6" – MATERIAL CODE 9500000156**



HEAD(ft)	INPUT POWER (WATTS)													
	5000	4500	4000	3500	3000	2750	2500	2250	2000	1800	1600	1400	1200	
33	283	259	233	205	174	157	140	122	103	86	69	49	30	
66	234	209	182	151	118	99	79	58	33					

**PUMP PERFORMANCE SSP5000-98-10.3**

**MOTOR 5 HP**  
**380 VOLT MOTOR – (6"X6") – NPT 2.50"**  
**MAXIMUM OD 6" – MATERIAL CODE 9500000157**

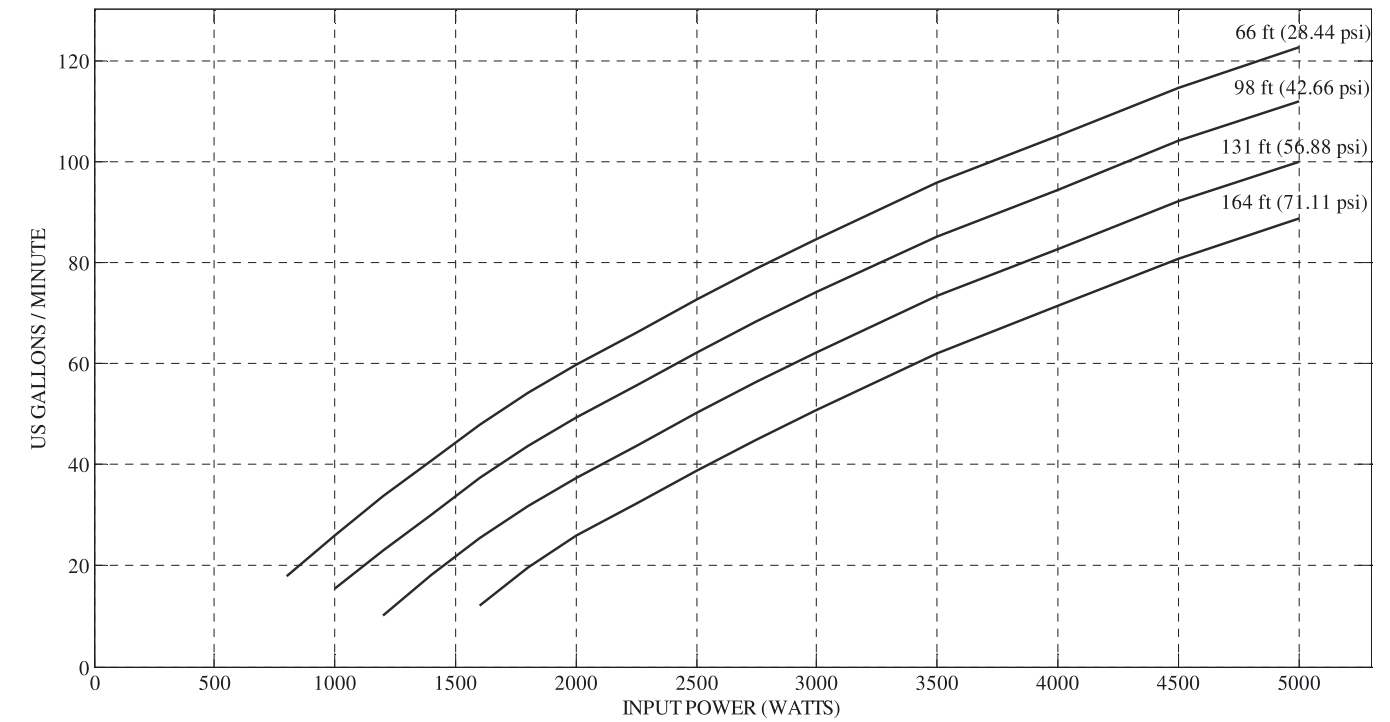


HEAD(ft)	INPUT POWER (WATTS)											
	5000	4500	4000	3500	3000	2750	2500	2250	2000	1800	1600	1400
	FLOW RATE (US GALLONS / MINUTE)											
66	162	150	136	120	103	94	83	73	61	51	41	30
98	144	130	114	98	81	71	61	51	39	30	20	
131	117	104	89	73	55	46	36	26	15			



**PUMP PERFORMANCE SSP5000-164-6.3**

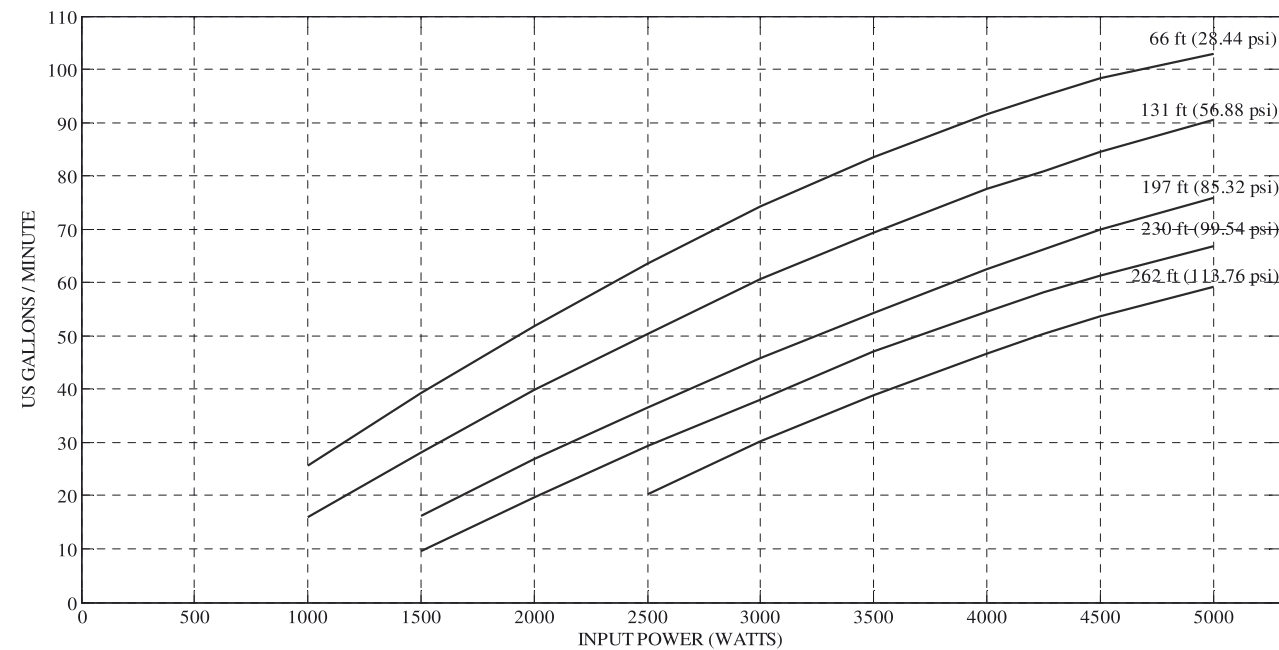
**MOTOR 5 HP**  
**380 VOLT MOTOR – (6"X6") – NPT 2"**  
**MAXIMUM OD 6" – MATERIAL CODE 9500000158**



HEAD(ft)	INPUT POWER (WATTS)											
	5000	4500	4000	3500	3000	2750	2500	2250	2000	1600	1200	800
	FLOW RATE (US GALLONS / MINUTE)											
66	122	114	105	96	85	79	73	66	60	48	34	18
98	112	104	94	85	74	68	62	56	49	37	23	
131	100	92	82	73	62	56	50	44	37	25	10	
164	89	81	71	62	51	45	39	32	26	12		

**PUMP PERFORMANCE SSP5000-230-4.8**

**MOTOR 5 HP**  
**380 VOLT MOTOR – (6"X6") – NPT 2.0"**  
**MAXIMUM OD 6" – MATERIAL CODE 9500000159**

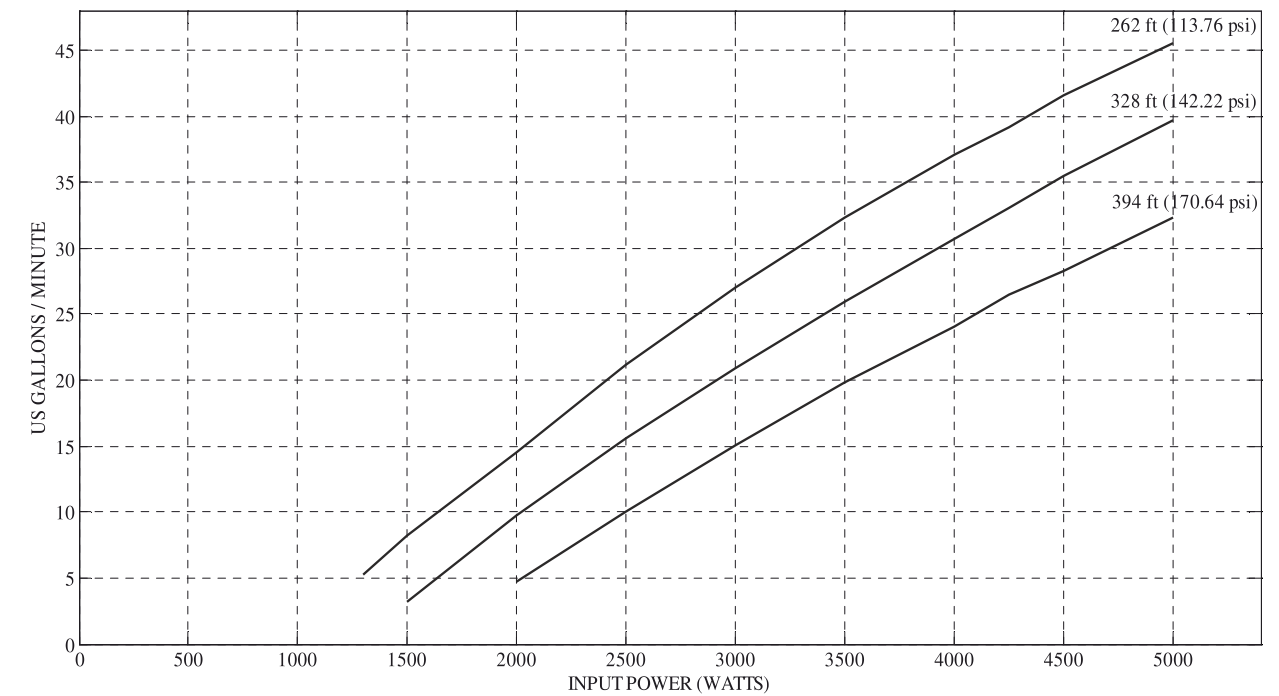


HEAD(ft)	INPUT POWER (WATTS)									
	5000	4500	4250	4000	3500	3000	2500	2000	1500	1000
	FLOW RATE (US GALLONS / MINUTE)									
66	103	98	95	91	84	74	63	52	39	26
131	90	85	81	77	69	61	50	39	28	16
197	76	70	66	62	54	46	37	27	16	
230	67	61	58	54	47	38	29	20	10	
262	59	54	50	47	39	30	21	11		



**PUMP PERFORMANCE SSP5000-328-2.9**

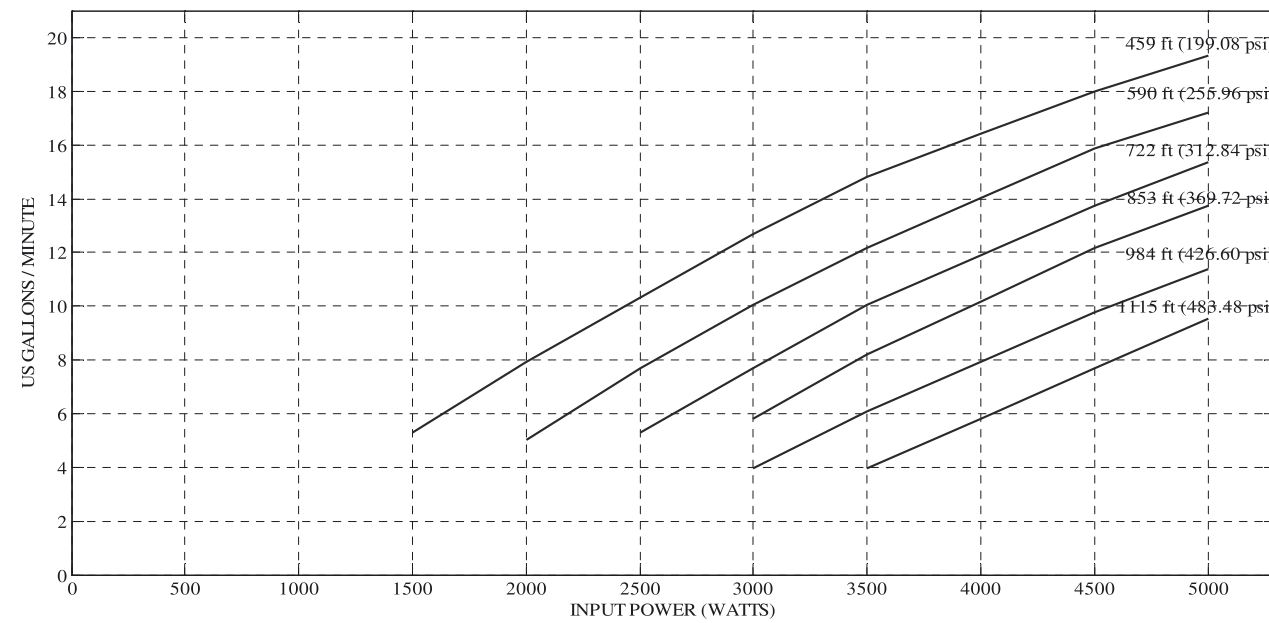
**MOTOR 5 HP**  
**380 VOLT MOTOR – (6"X4") – NPT 2.0"**  
**MAXIMUM OD 6" – MATERIAL CODE 9500000160**



HEAD(ft)	INPUT POWER (WATTS)									
	5000	4500	4250	4000	3500	3000	2500	2000	1500	1300
	FLOW RATE (US GALLONS / MINUTE)									
262	45	42	39	37	32	27	21	15	8	5
328	40	35	33	31	26	21	16	10	3	
394	32	28	26	24	20	15	10	5		

**PUMP PERFORMANCE SSP5000-722-1**

**MOTOR 5 HP**  
**380 VOLT MOTOR - (6"X4") - NPT 1.25"**  
**MAXIMUM OD 6" - MATERIAL CODE 9500000161**

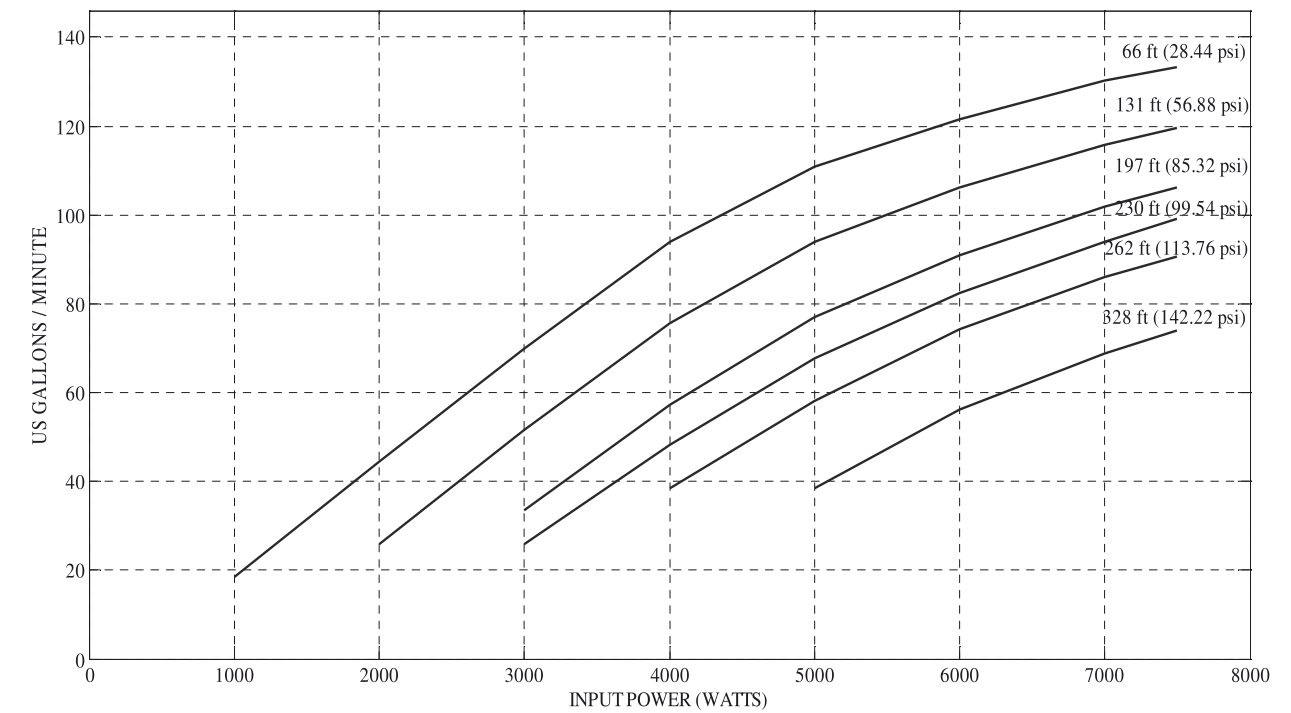


	INPUT POWER (WATTS)							
	5000	4500	4000	3500	3000	2500	2000	1500
HEAD(ft)	FLOW RATE (US GALLONS / MINUTE)							
459	19	18	16	15	13	10	8	5
590	17	16	14	12	10	8	5	
722	15	14	12	10	8	5		
853	14	12	10	8	6			
984	11	10	8	6	4			
1115	10	8	6	4				



**PUMP PERFORMANCE SSP7500-230-4.8**

**MOTOR 7.5 HP**  
**380 VOLT MOTOR - (6"X6") - NPT 2.00"**  
**MAXIMUM OD 6" - MATERIAL CODE 9500000162**

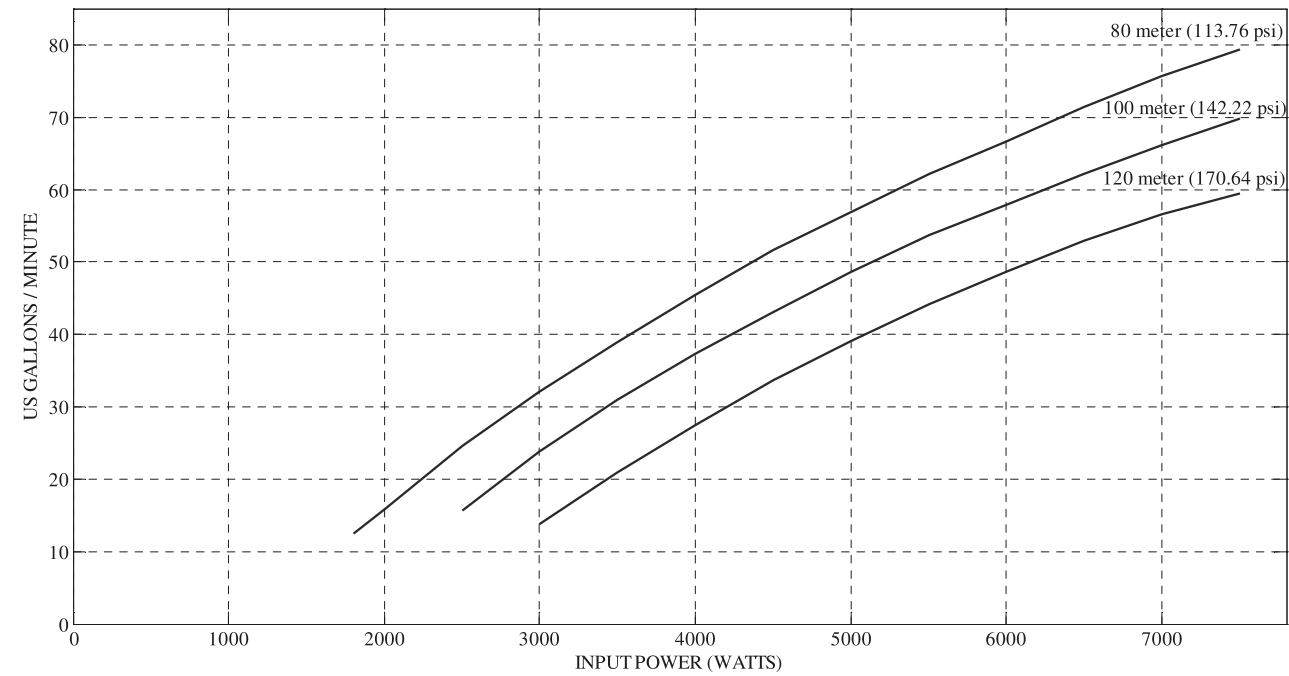


	INPUT POWER (WATTS)							
	7500	7000	6000	5000	4000	3000	2000	1000
HEAD(ft)	FLOW RATE (US GALLONS / MINUTE)							
66	133	130	122	111	94	70	44	19
131	119	115	107	94	76	52	26	
197	106	102	93	78	57	33		
230	99	93	82	68	48	26		
262	91	86	74	58	38			
328	74	69	56	38	00			



**PUMP PERFORMANCE SSP7500-328-3.2**

**MOTOR 7.5 HP**  
**380 VOLT MOTOR – (6"X6") – NPT 2.0"**  
**MAXIMUM OD 6" – MATERIAL CODE 9500000163**

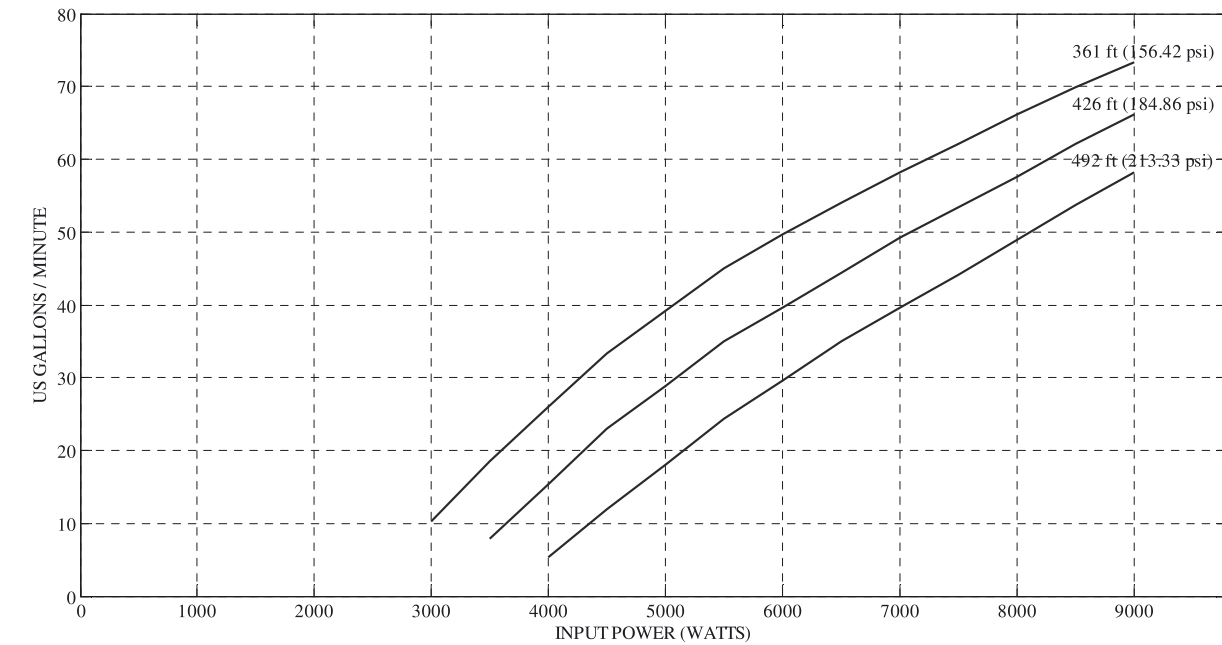


	INPUT POWER (WATTS)												
	7500	7000	6500	6000	5500	5000	4500	4000	3500	3000	2500	2000	1800
HEAD(M)	FLOW RATE (US GALLONS / MINUTE)												
262	79	76	71	67	62	57	52	45	39	32	25	16	12
328	70	66	62	58	54	49	43	37	31	24	16		
394	59	57	53	49	44	39	34	28	21	14			



**PUMP PERFORMANCE SSP9000-426-2.6**

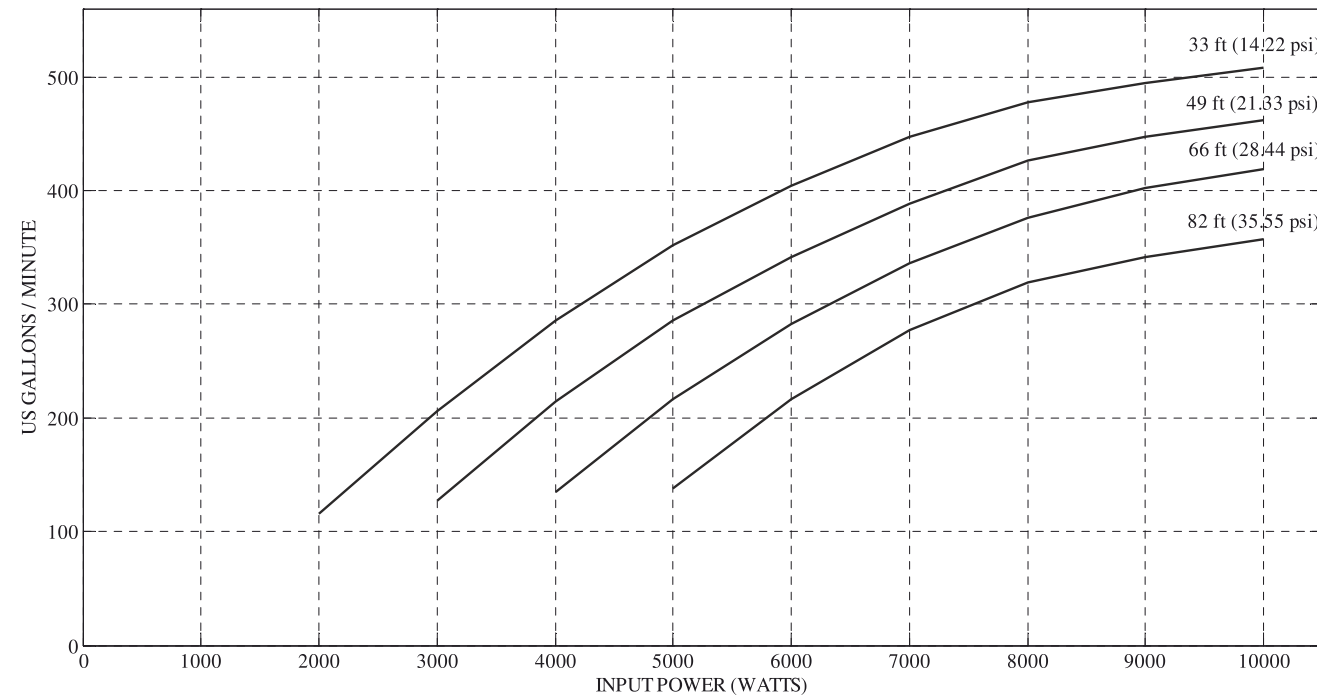
**MOTOR 10 HP**  
**380 VOLT MOTOR – (6"X6") – NPT 2.0"**  
**MAXIMUM OD 6" – MATERIAL CODE 9500000164**



	INPUT POWER (WATTS)												
	9000	8500	8000	7500	7000	6500	6000	5500	5000	4500	4000	3500	3000
HEAD(ft)	FLOW RATE (US GALLONS / MINUTE)												
361	73	70	66	62	58	54	50	45	39	33	26	19	10
426	66	62	58	53	49	44	40	35	29	23	15		
492	58	54	49	44	40	35	30	24	18	12			

**PUMP PERFORMANCE SSP10000-66-15**

**MOTOR 10 HP**  
**380 VOLT MOTOR – (6"X8") – NPT 4.0"**  
**MAXIMUM OD 8" – MATERIAL CODE 9500000165**

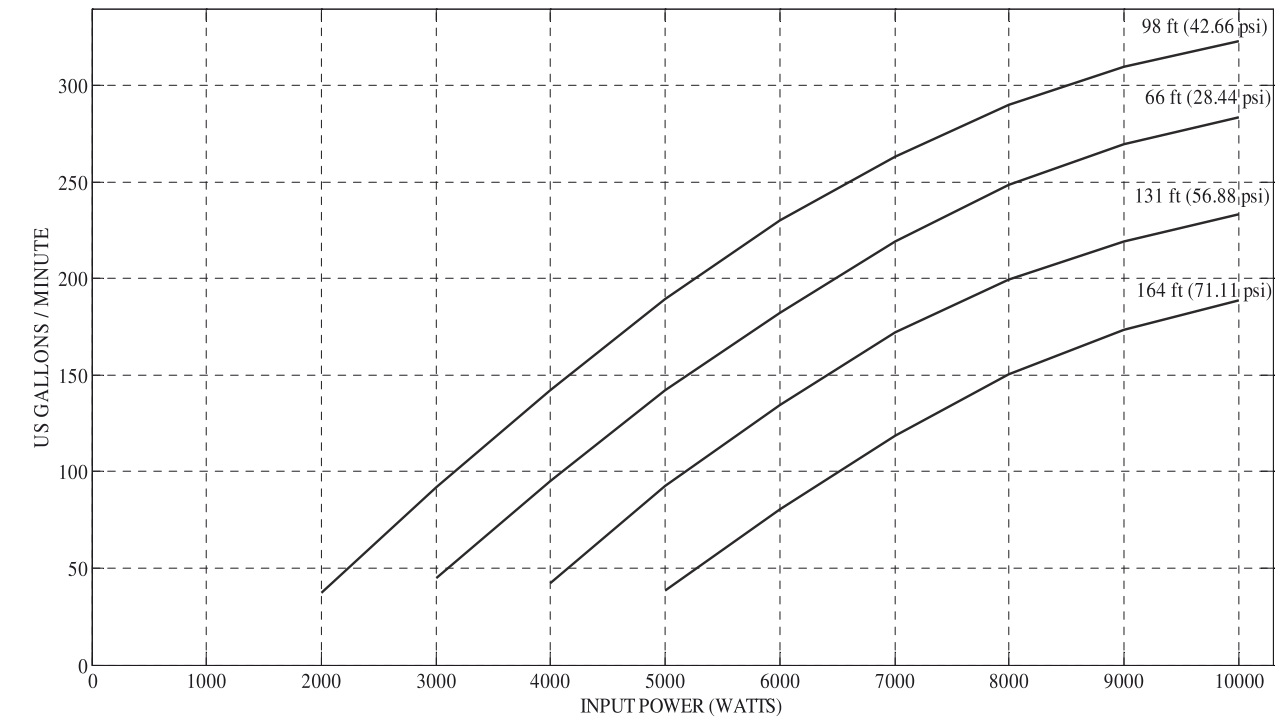


HEAD(ft)	INPUT POWER (WATTS)								
	10000	9000	8000	7000	6000	5000	4000	3000	2000
	FLOW RATE (US GALLONS / MINUTE)								
33	507	494	477	449	404	351	285	206	116
49	462	447	425	391	341	285	214	127	
66	419	402	375	338	283	217	135		
82	357	341	319	280	217	137			



**PUMP PERFORMANCE SSP10000-131-8.2**

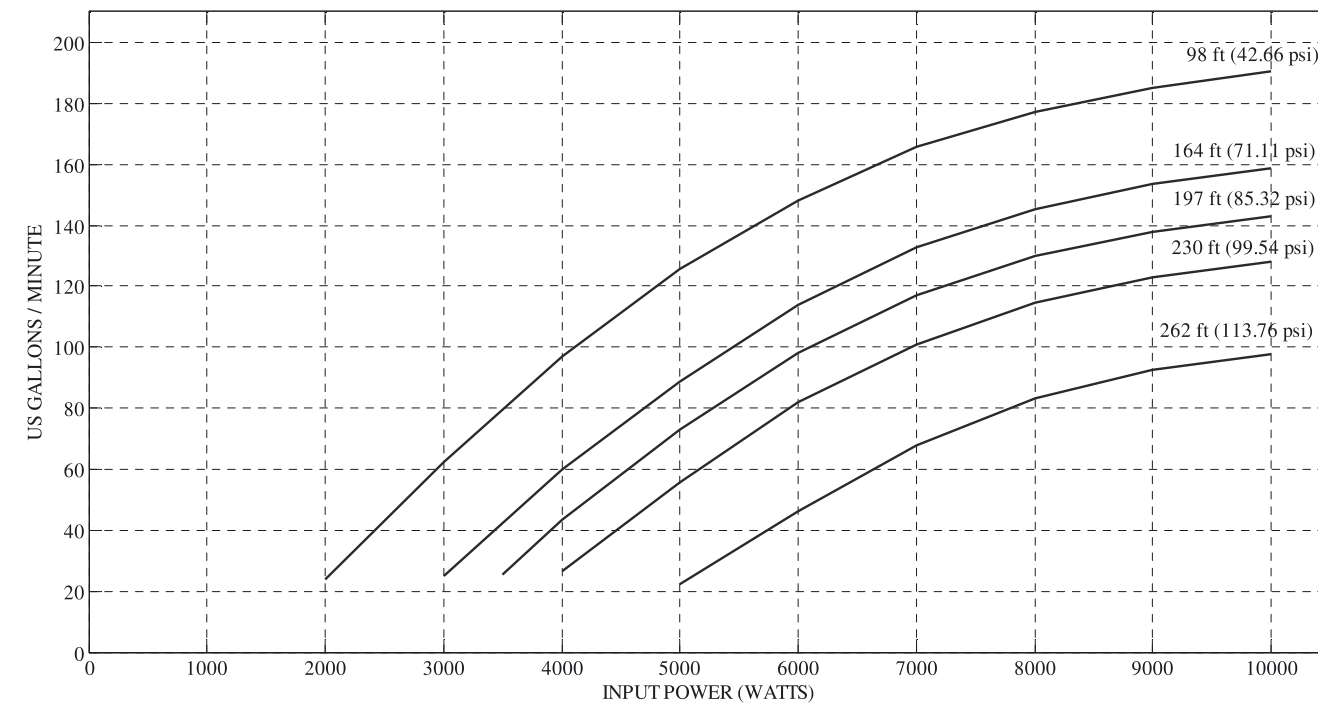
**MOTOR 10 HP**  
**380 VOLT MOTOR – (6"X6") – NPT 3.0"**  
**MAXIMUM OD 6" – MATERIAL CODE 9500000166**



HEAD(ft)	INPUT POWER (WATTS)								
	10000	9000	8000	7000	6000	5000	4000	3000	2000
	FLOW RATE (US GALLONS / MINUTE)								
66	323	309	290	263	230	189	142	92	37
98	283	270	249	219	182	142	95	45	
131	233	219	200	172	143	93	42		
164	189	174	151	119	81	38			

**PUMP PERFORMANCE SSP10000-197-5**

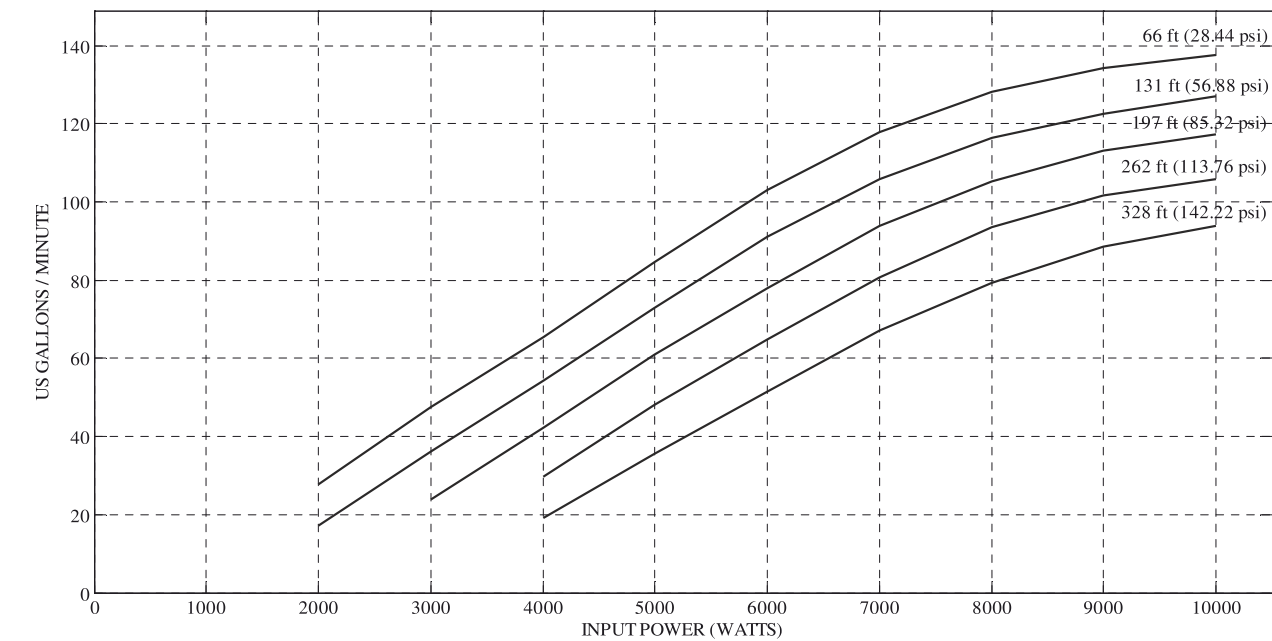
**MOTOR 10 HP  
380 VOLT MOTOR – (6"X6") – NPT 2.5"  
MAXIMUM OD 6" – MATERIAL CODE 9500000167**



	INPUT POWER (WATTS)								
	10000	9000	8000	7000	6000	5000	4000	3000	2000
HEAD(ft)	FLOW RATE (US GALLONS / MINUTE)								
98	190	185	177	166	148	126	97	62	24
164	159	153	145	134	114	89	60	25	
197	143	138	130	117	98	73	44		
230	128	123	114	101	82	56	26		
262	98	93	83	68	46	22			

**PUMP PERFORMANCE SSP10000-262-3.7**

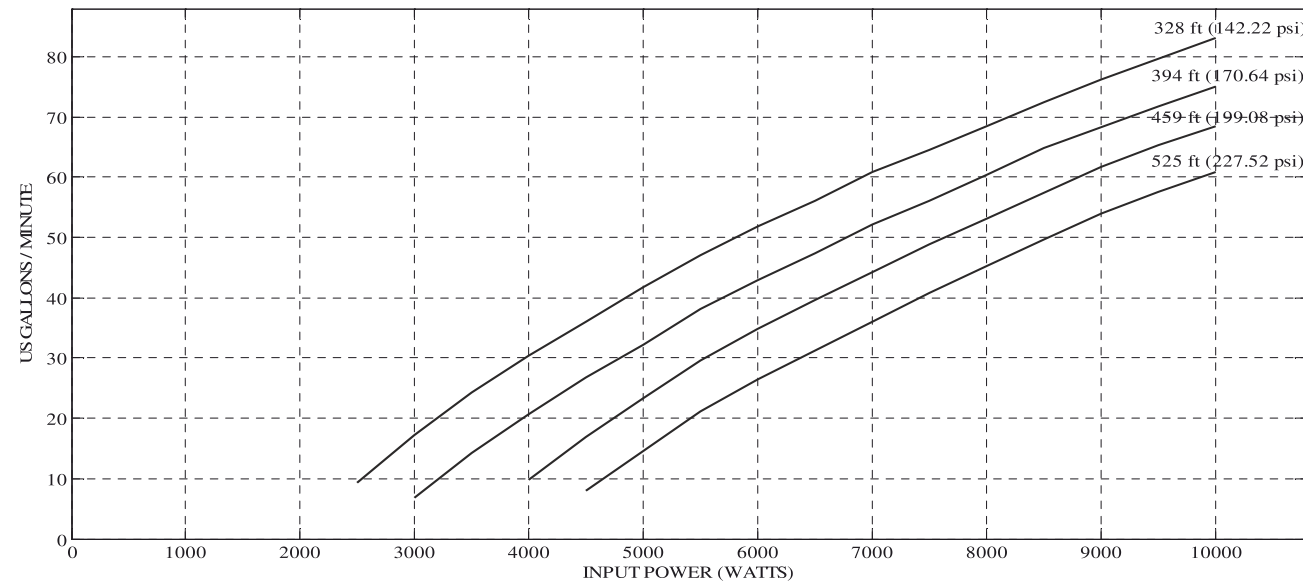
**MOTOR 10 HP  
380 VOLT MOTOR – (6"X6") – NPT 2.0"  
MAXIMUM OD 6" – MATERIAL CODE 9500000168**



	INPUT POWER (WATTS)								
	10000	9000	8000	7000	6000	5000	4000	3000	2000
HEAD(ft)	FLOW RATE (US GALLONS / MINUTE)								
66	137	134	128	118	103	85	65	48	28
131	127	123	116	106	91	73	54	36	17
197	117	113	105	94	78	61	42	24	
262	106	102	94	81	65	48	30		
328	94	89	79	67	52	36	19		

**PUMP PERFORMANCE SSP10000-459-2.4**

**MOTOR 10 HP**  
**380 VOLT MOTOR - (6"X6") - NPT 2.0"**  
**MAXIMUM OD 6" - MATERIAL CODE 9500000169**

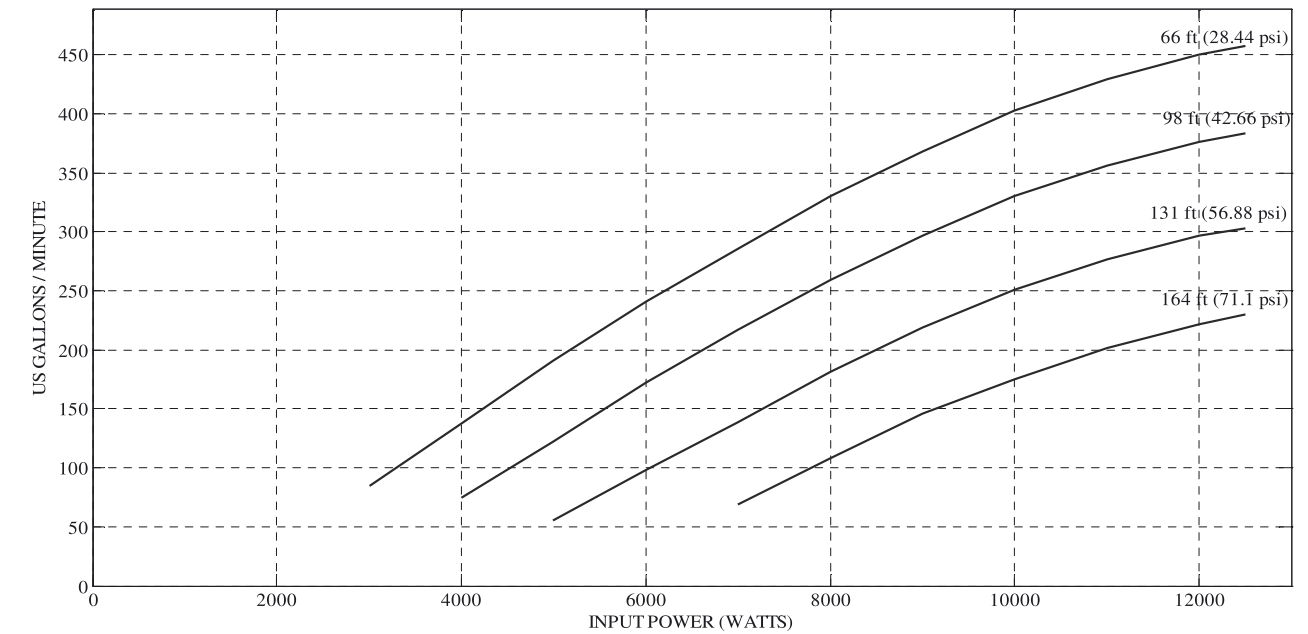


HEAD(ft)	INPUT POWER (Kw)															
	10	9.5	9	8.5	8	7.5	7	6.5	6	5.5	5	4.5	4	3.5	3	2.5
	FLOW RATE (US GALLONS / MINUTE)															
328	83	80	76	72	68	65	61	56	52	47	42	36	30	24	17	9
394	75	72	68	65	60	56	52	47	43	38	32	27	21	14	7	
459	68	65	62	57	53	49	44	40	35	30	23	17	10			
525	61	58	54	50	45	41	36	31	26	21	15	8				



**PUMP PERFORMANCE SSP12500-98-10.8**

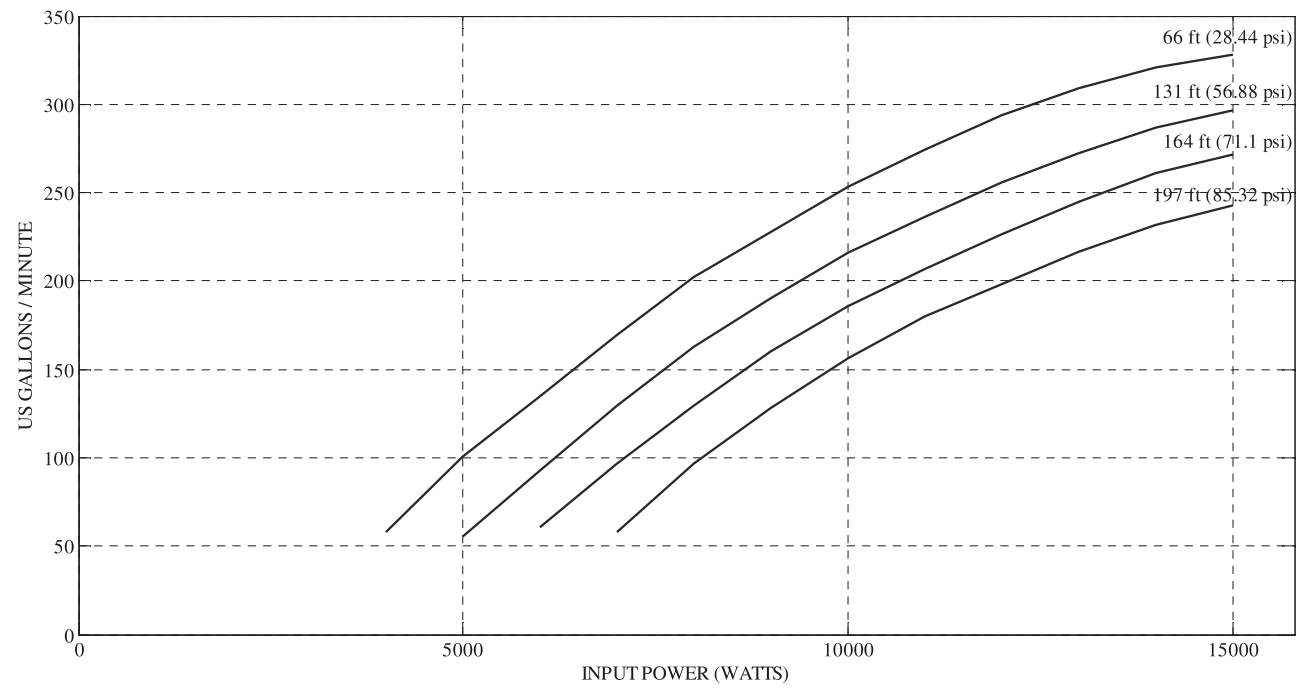
**MOTOR 12.5 HP**  
**380 VOLT MOTOR - (6"X8") - NPT 4.0"**  
**MAXIMUM OD 8" - MATERIAL CODE 9500000170**



HEAD(ft)	INPUT POWER (WATTS)										
	12500	12000	11000	10000	9000	8000	7000	6000	5000	4000	3000
	FLOW RATE (US GALLONS / MINUTE)										
66	457	449	429	402	367	330	285	240	190	137	85
98	383	375	355	330	296	259	217	172	122	74	
131	303	296	276	251	219	181	139	98	56		
164	229	221	201	174	145	108	69				

**PUMP PERFORMANCE SSP15000-197-5.8**

**MOTOR 15 HP**  
**380 VOLT MOTOR – (6"X6") – NPT 3.0"**  
**MAXIMUM OD 6" – MATERIAL CODE 9500000171**

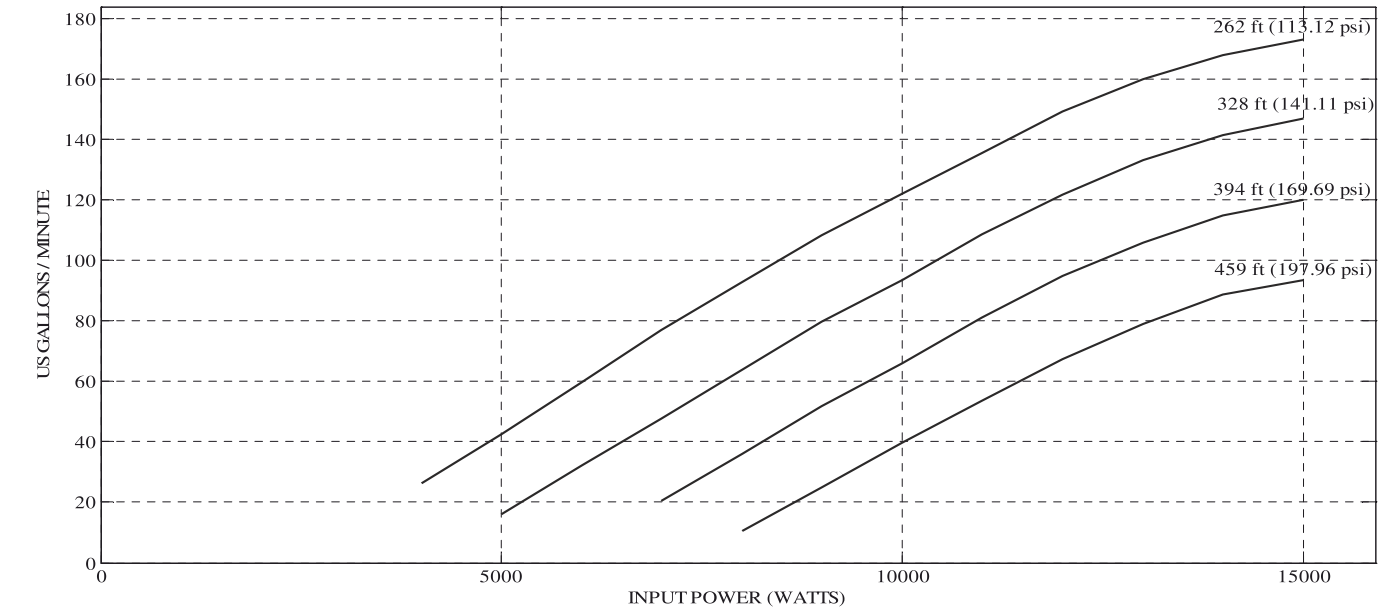


HEAD (ft)	INPUT POWER (WATTS)											
	15000	14000	13000	12000	11000	10000	9000	8000	7000	6000	5000	4000
66	328	320	309	293	274	253	227	202	169	135	100	58
131	296	286	272	256	236	216	190	163	130	100	56	
164	272	261	244	226	207	186	160	130	96	61		
197	242	231	217	198	178	156	128	96	58			



**PUMP PERFORMANCE SSP15000-328-3.5**

**MOTOR 15 HP**  
**380 VOLT MOTOR – (6"X6") – NPT 2.5"**  
**MAXIMUM OD 6" – MATERIAL CODE 9500000172**

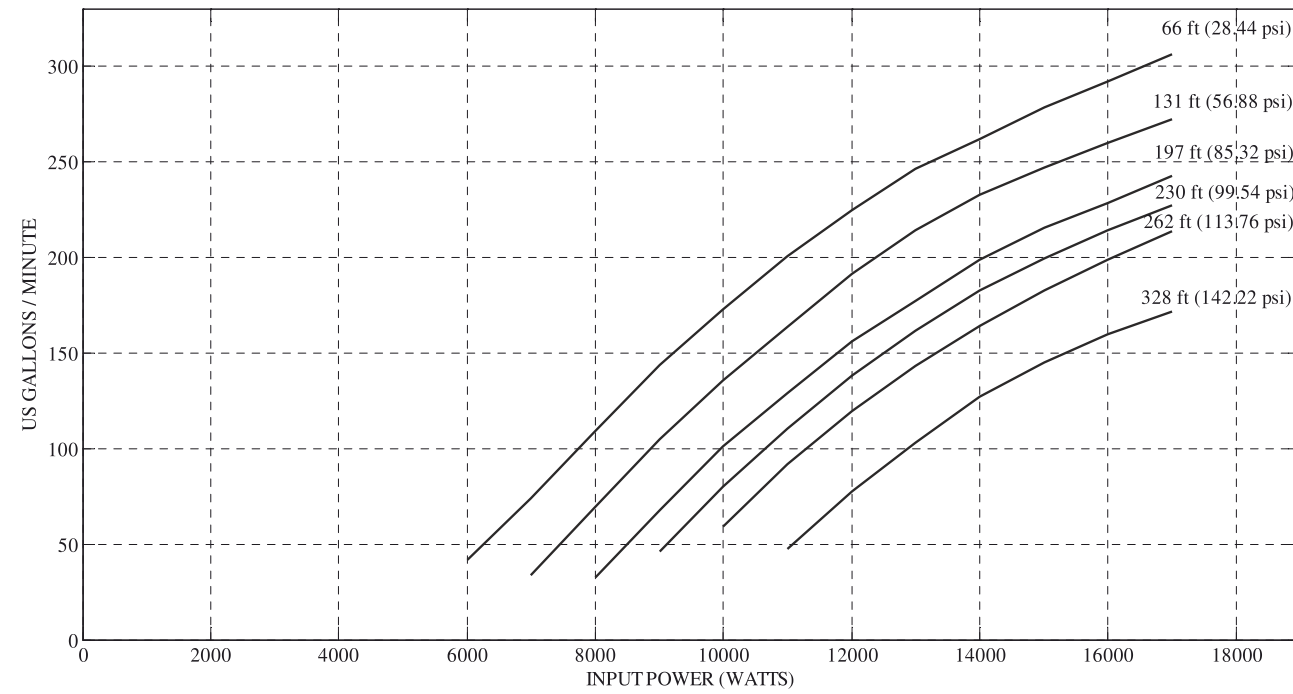


HEAD (ft)	INPUT POWER (WATTS)											
	15000	14000	13000	12000	11000	10000	9000	8000	7000	6000	5000	4000
262	173	168	160	149	135	122	108	93	77	60	43	26
328	147	141	133	122	109	94	80	64	48	32	16	00
394	120	115	106	95	81	66	52	36	21			
459	94	89	79	67	54	40	25	11				



**PUMP PERFORMANCE SSP20000-262-4.2**

**MOTOR 20 HP  
380 VOLT MOTOR – (6"X6") – NPT 3.0"  
MAXIMUM OD 6" – MATERIAL CODE 9500000173**

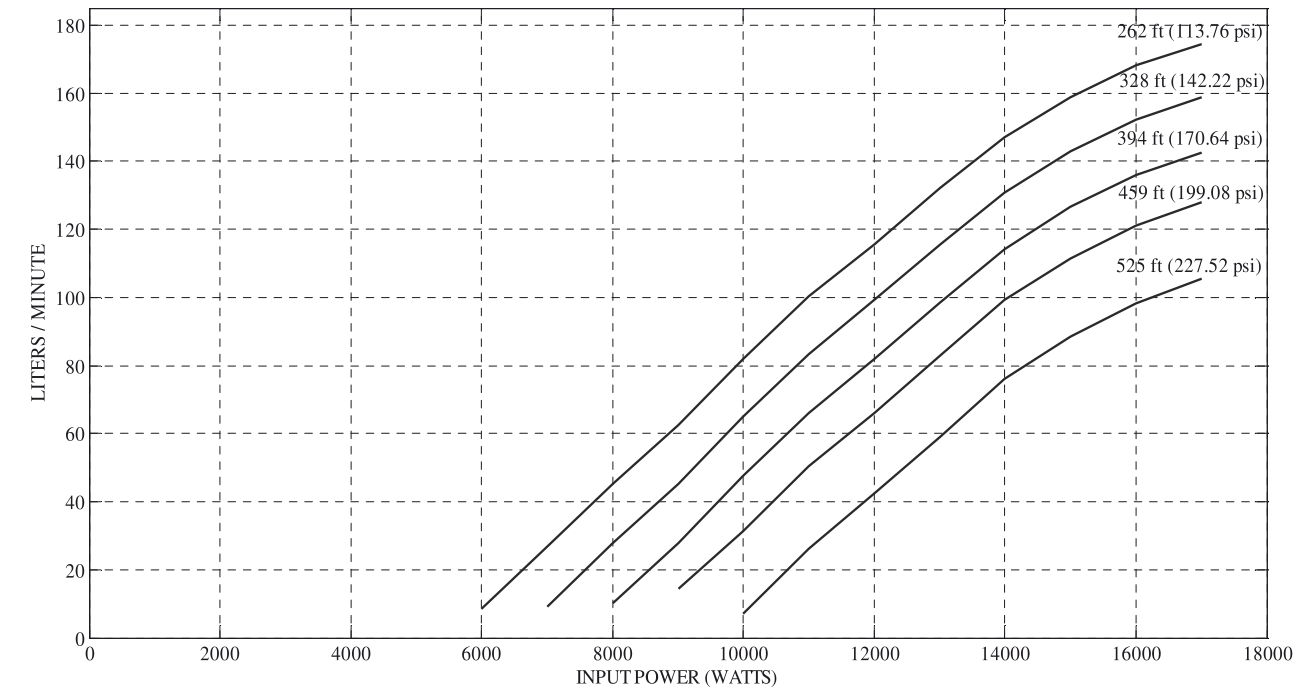


HEAD (ft)	INPUT POWER (WATTS)											
	17000	16000	15000	14000	13000	12000	11000	10000	9000	8000	7000	6000
66	306	291	278	262	246	225	200	173	144	109	73	42
131	272	260	247	233	214	191	163	136	104	70	34	00
197	243	228	215	198	177	156	129	101	67	33		
230	227	214	199	182	161	138	110	80	46			
262	214	198	183	164	143	120	92	59				
328	171	159	145	127	103	77	47					



**PUMP PERFORMANCE SSP20000-394-3**

**MOTOR 20 HP  
380 VOLT MOTOR – (6"X6") – NPT 2.50"  
MAXIMUM OD 6" – MATERIAL CODE 9500000174**



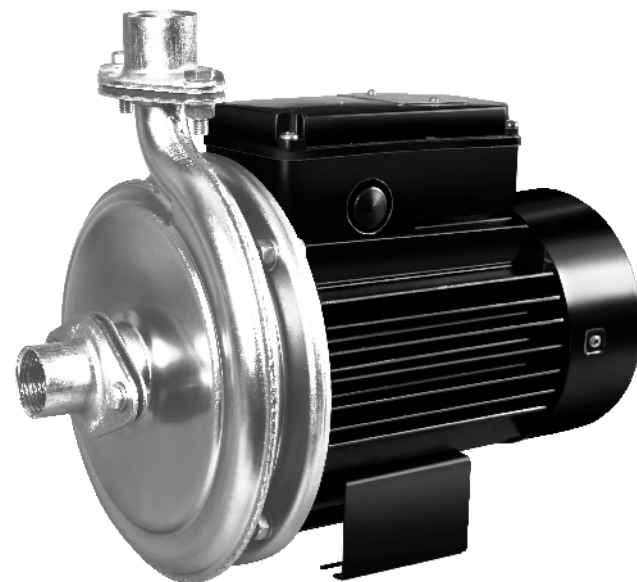
HEAD (ft)	INPUT POWER (WATTS)											
	17000	16000	15000	14000	13000	12000	11000	10000	9000	8000	7000	6000
262	174	168	159	147	132	116	100	82	62	45	27	9
328	159	152	143	131	116	99	83	65	45	28	9	
394	142	136	126	114	98	82	66	48	28	10		
459	128	121	111	99	83	66	50	31	14			
525	105	98	88	76	59	43	26	7				

**SOLAR MONOBLOCK PUMP**

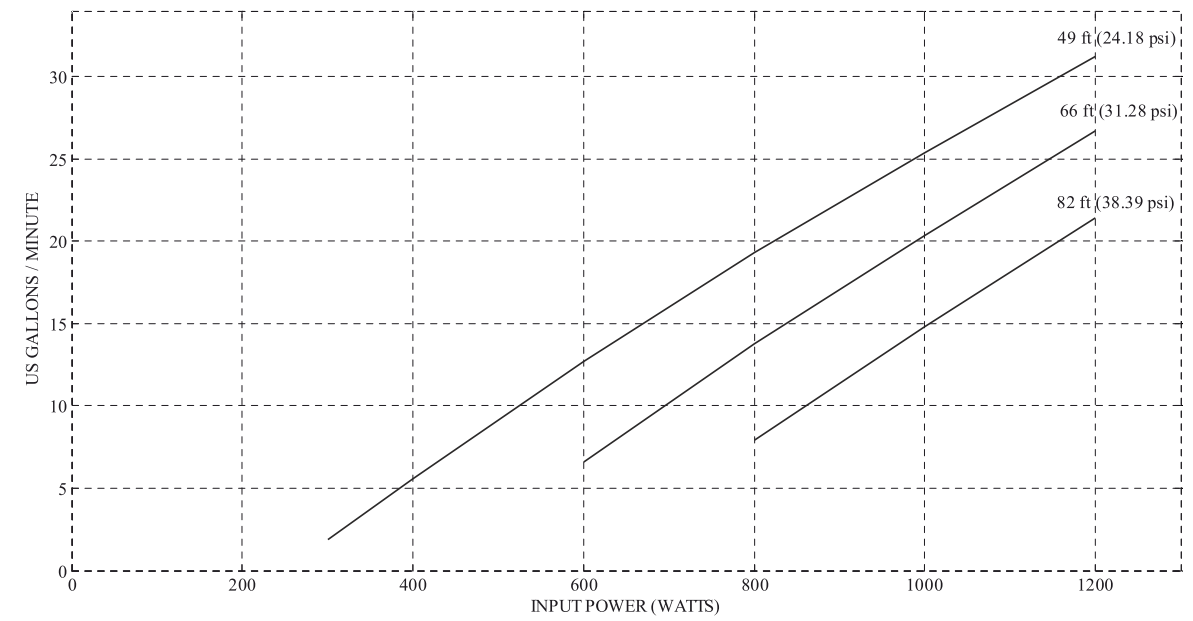


**SMP SERIES**

**PUMP PERFORMANCE SMP1200-66-8**



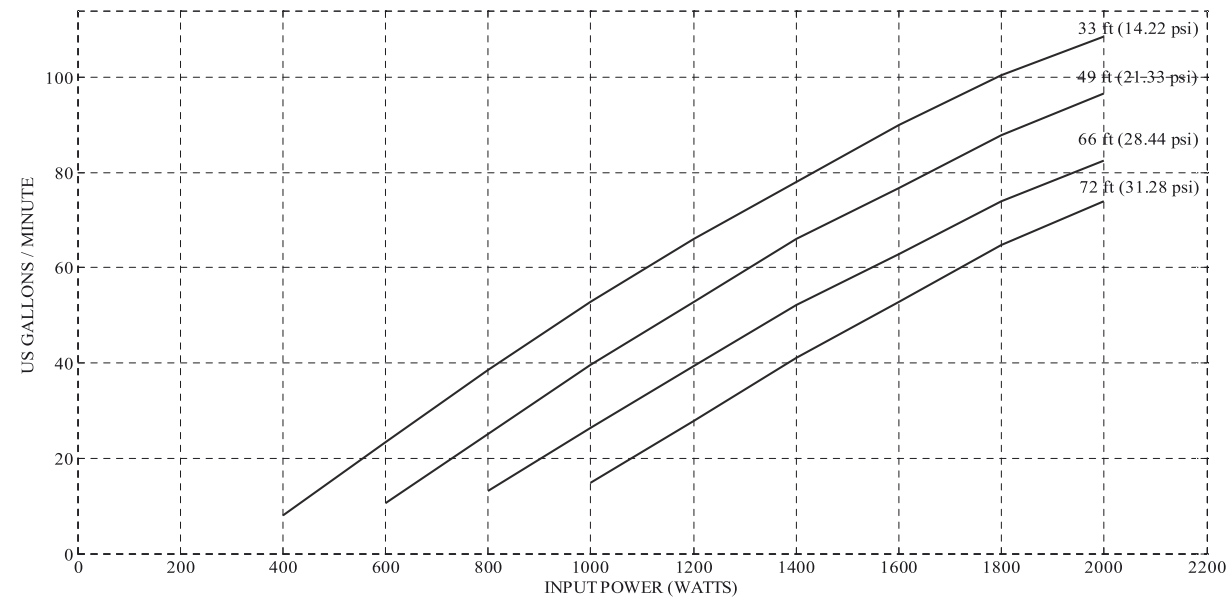
**MOTOR 1 HP  
120 VOLT MOTOR  
MATERIAL CODE 9000018706**



	INPUT POWER (WATTS)					
	1200	1000	800	600	400	300
HEAD(ft)	FLOW RATE (US GALLONS / MINUTE)					
49	31	25	19	13	6	2
66	27	20	14	7		
82	21	15	8			

**PUMP PERFORMANCE SMP2000-66-17**

**MOTOR 2 HP  
160 VOLT MOTOR  
MATERIAL CODE 9000018709**

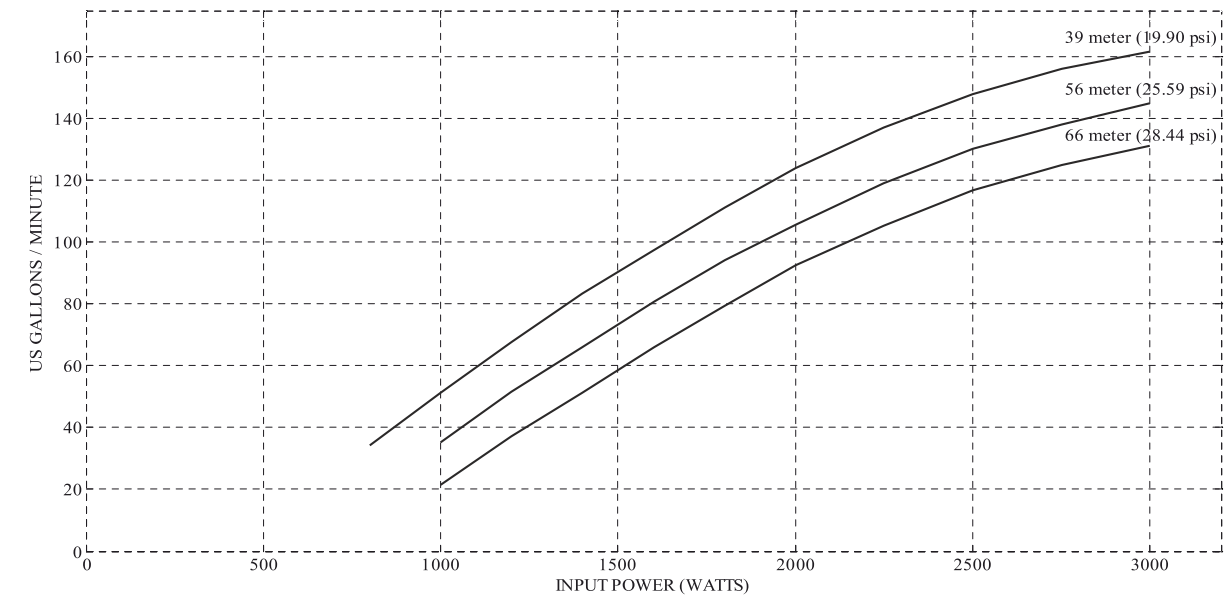


	INPUT POWER (WATTS)								
	2000	1800	1600	1400	1200	1000	800	600	400
HEAD(ft)	FLOW RATE (US GALLONS / MINUTE)								
33	109	101	90	78	66	53	39	23	8
49	97	88	77	66	53	40	25	11	
66	83	74	63	52	39	27	13		
72	74	65	53	41	28	15			



**PUMP PERFORMANCE SMP3000-66-15.8**

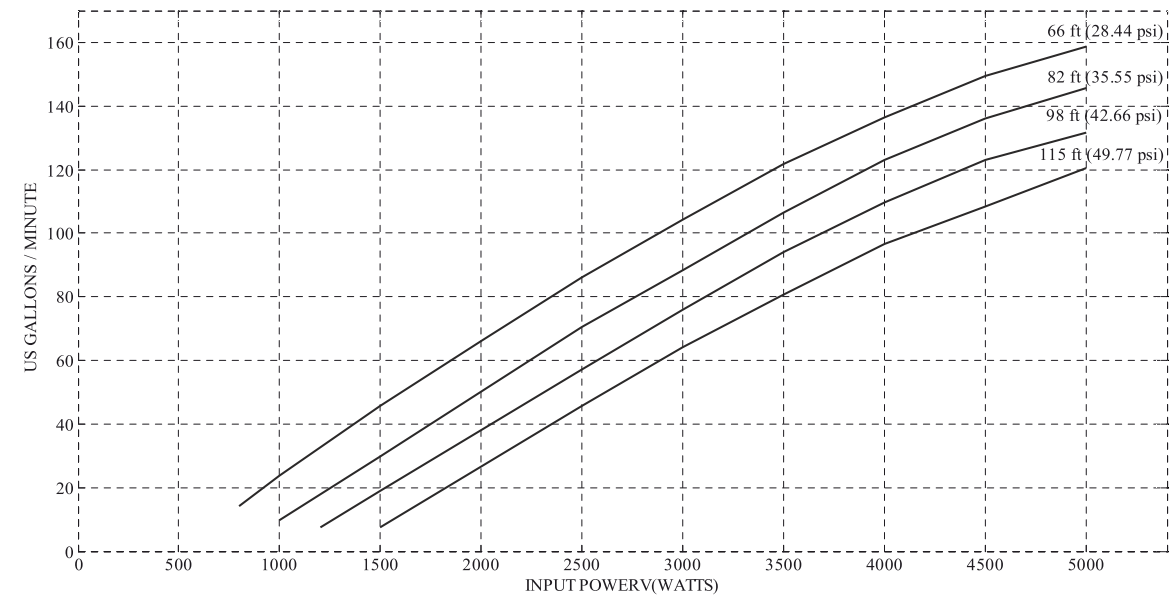
**MOTOR 3 HP  
230 VOLT MOTOR  
MATERIAL CODE 9000018710**



	INPUT POWER (WATTS)										
	3000	2750	2500	2250	2000	1800	1600	1400	1200	1000	800
HEAD(ft)	FLOW RATE (US GALLONS / MINUTE)										
39	162	156	148	137	124	111	98	83	68	51	34
56	145	138	130	119	106	94	81	66	52	35	
66	131	125	117	105	92	79	66	51	37	21	

## PUMP PERFORMANCE SMP5000-98-9.5

**MOTOR 5 HP  
380 VOLT MOTOR  
MATERIAL CODE 9000018711**



HEAD(ft)	INPUT POWER (WATTS)									
	5000	4500	4000	3500	3000	2500	2000	1500	1000	800
	FLOW RATE (US GALLONS / MINUTE)									
66	159	150	137	122	104	86	66	46	24	14
82	146	136	123	106	88	70	50	30	10	
98	132	123	110	94	76	57	38	19		
115	120	109	97	81	64	46	27	7		