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# SUBMERSIBLE PUMPS

## RESIDENTIAL & LIGHT COMMERCIAL







# SUBMERSIBLE PUMPS

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## MODEL NUMBER NOMENCLATURE

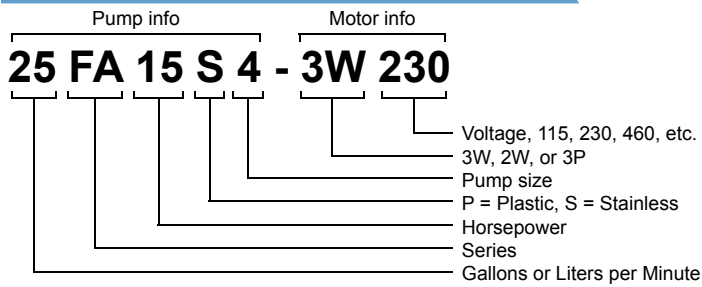
### PUMP & MOTOR BRAND/SERIES CODES

- FR = FPS 3200 Series
- FA = FPS Tri-Seal
- FV = FPS Series V
- FE = FPS Environmental
- FP = FPS Brand

### HORSEPOWER CODES

HP	1/3	1/2	3/4	1	1.5	2	3	5	7.5	10	15	20	25	30	35	40	50	60	75	100	125	150	175	200
Code	03	05	07	1	15	2	3	5	7	10	15	20	25	30	35	40	50	60	75	100	125	150	175	200

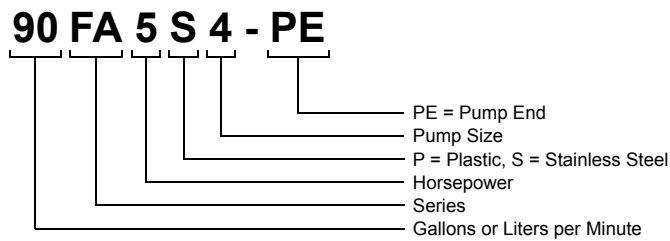
### 4" 5-25 GPM SUBMERSIBLE PUMPS/MOTORS



**Examples:**

- 15FA1S4-2W115 = 15 gpm, FPS 4400 Tri-Seal, Stainless Steel, 1 hp, 115 V, 2-wire Motor
- 10FA15SA-3W230 = 10 gpm, FPS 4400 Tri-Seal, Stainless Steel, 1.5 hp, 230 V, 3-wire Motor

### PUMP END



**Examples:**

- 45FA3S4-PE = 45 gpm, FPS 4400, 3 hp, Stainless Steel, Pump End
- 25FE1P4-PE = 25 lpm, FPS E Series, 1 hp, Plastic, Pump End



## YOUR SUBMERSIBLE PUMP TEAM

Franklin’s technical service hotline is made up of real people, offering real answers, in real time. Serving professional water systems distributors and contractors, our hotline boasts decades of collective industry experience. For answers to your water systems questions, contact our hotline by phone or email.

### CUSTOMER RELATIONS

Please contact us at:

Toll free: 800-269-0063

Fax: 260-827-5800

E-mail: [cleanwater@fele.com](mailto:cleanwater@fele.com)

Franklin Electric Website: [www.franklinwater.com](http://www.franklinwater.com)

E-Link: <http://elink.franklin-electric.com>

Distributor Self-Service: <http://customer.franklin-electric.com>

Facebook, Twitter, & YouTube: Search for “Franklin Electric”

### TECHNICAL SERVICE HOTLINE

Please contact us at:

Toll free: 800-348-2420

E-mail: [hotline@fele.com](mailto:hotline@fele.com)

Franklin Electric Website: [www.franklinwater.com](http://www.franklinwater.com)

E-Link: <http://elink.franklin-electric.com>

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EXPERIENCE  
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## 4" 3200 SERIES PUMPS

The 3200 Series submersible pumps are designed so that all parts of the pump end, including the cable guard, fall within the diameter of Franklin Electric's industry leading submersible 4" motor. This reduced diameter pump end makes it ideal for installations where the well is considered encrusted or tight in comparison to a standard 4" well. The 3200 Series also offers a hydraulic stage design optimized for greater water and pressure output when installed at deeper well depths. For details on how to become a registered dealer and receive a 5-year warranty, contact your local distributor.

### FEATURES

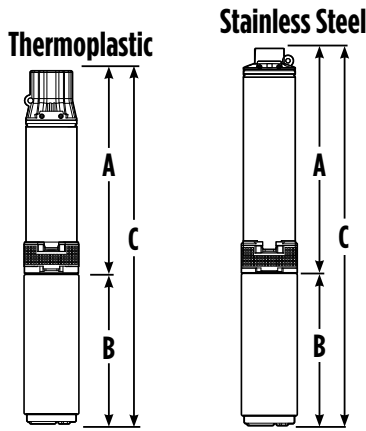
- Pump diameter is smaller than a standard 4" submersible for easier installation in reduced diameter 4" wells
- Hex rubber bearing and ceramic shaft sleeve allows sand and abrasives to pass through, virtually eliminating shaft wear and upper bearing failures
- Improved hydraulic performance for deeper set depths at all horsepower and flow ratings
  - Floating stage design allows for maximum efficiency while minimizing the downthrust load that is transferred to the motor
  - Advanced thermoplastic diffuser and disc with 300 Series stainless steel thrust and eye seal protection for durability and abrasion resistance
  - Scalloped impellers provide high performance to increase pressure output while reducing system losses from friction
- Removable spring-loaded check valve
- Stainless steel pump intake screen and stainless steel cable guard
- Maximum water temperature: 120 °F/49 °C
- Powered by corrosion-resistant Franklin Electric submersible 4" motor with lightning protection



UL 778  
 CSA 108  
 NSF/ANSI 372  
 NSF/ANSI 61 (Pump end only)

## 4" 3200 SERIES PUMPS

### DIMENSIONS



Plastic with 2-Wire Motors							
GPM	HP	Stages	A	B	C	PE Wt.	PMA Wt.
5	1/2	13	18.4	9.5	27.9	8	27
	3/4	18	22.6	10.6	33.3	10	31
	1	22	26.0	11.7	37.7	11	35
7	1/2	10	15.9	9.5	25.4	7	26
	3/4	13	18.4	10.6	29.0	9	30
	1	18	22.6	11.7	34.3	11	35
10	1/2	11	16.7	9.5	26.2	8	27
	1/2	11	16.7	9.5	26.2	8	27
	3/4	14	19.2	10.6	29.8	10	31
	1	19	23.5	11.7	35.2	12	36

Plastic with 3-Wire Motors							
GPM	HP	Stages	A	B	C	PE Wt.	PMA Wt.
5	1/2	13	18.4	9.5	27.9	8	27
	3/4	18	22.6	10.6	33.3	10	31
	1	22	26.0	11.7	37.7	11	35
7	1/2	10	15.9	9.5	25.4	7	26
	3/4	13	18.4	10.6	29.0	9	30
	1	18	22.6	11.7	34.3	11	35
10	1/2	11	16.7	9.5	26.2	8	27
	1/2	11	16.7	9.5	26.2	8	27
	3/4	14	19.2	10.6	29.8	10	31
	1	19	23.5	11.7	35.2	12	36

Stainless Steel with 2-Wire Motors							
GPM	HP	Stages	A	B	C	PE Wt.	PMA Wt.
5	1/2	13	18.4	9.5	27.9	10	29
	3/4	18	22.6	10.6	33.3	12	33
	1	22	26.0	11.7	37.7	13	27
	1.5	30	34.1	15.1	49.2	19	50
7	1/2	10	15.9	9.5	25.4	9	28
	3/4	13	18.4	10.6	29.0	11	32
	1	18	22.6	11.7	34.3	13	37
	1.5	23	26.8	15.1	41.9	17	48
10	1/2	11	16.7	9.5	26.2	10	29
	1/2	11	16.7	9.5	26.2	10	29
	3/4	14	19.2	10.6	29.8	12	33
	1	19	23.5	11.7	35.2	14	38
	1.5	24	27.7	15.1	42.8	18	49

Stainless Steel with 3-Wire Motors							
GPM	HP	Stages	A	B	C	PE Wt.	PMA Wt.
5	1/2	13	18.4	9.5	27.9	10	29
	3/4	18	22.6	10.6	33.3	12	33
	1	22	26.0	11.7	37.7	13	27
	1.5	30	34.1	15.6	47.7	19	50
	2	38	40.9	15.1	56.0	23	N/A
7	1/2	10	15.9	9.5	25.4	9	28
	3/4	13	18.4	10.6	29.0	11	32
	1	18	22.6	11.7	34.3	13	37
	1.5	23	26.8	13.6	40.4	17	48
	2	30	34.1	15.1	49.2	20	N/A
	3	38	40.9	19.04	59.9	23	N/A
10	1/2	11	16.7	9.5	26.2	10	29
	1/2	11	16.7	9.5	26.2	10	29
	3/4	14	19.2	10.6	29.8	12	33
	1	19	23.5	11.7	35.2	14	38
	1.5	24	27.7	13.6	41.3	18	49

**Notes:** All lengths are in inches, all weights are in pounds.  
 PE - Pump end only / PMA - Pump and motor assembly  
 Diameter with cable guard is 3.75"



## 4" 3200 SERIES PUMPS - 5 GPM

### PLASTIC ORDERING INFORMATION

GPM	HP	Stg	Volts	2-Wire		3-Wire		
				Model	Order	Model	Order	Control Box
5	1/2	13	115	5FR05P4-2W115	96210505	5FR05P4-3W115	96210530	2801044915
	1/2	13	230	5FR05P4-2W230	96210510	5FR05P4-3W230	96210535	2801054915
	3/4	18	230	5FR07P4-2W230	96210515	5FR07P4-3W230	96210540	2801074915
	1	22	230	5FR1P4-2W230	96210520	5FR1P4-3W230	96210545	2801084915

### STAINLESS STEEL ORDERING INFORMATION

GPM	HP	Stg	Volts	2-Wire		3-Wire		
				Model	Order	Model	Order	Control Box
5	1/2	13	115	5FR05S4-2W115	96310505	5FR05S4-3W115	96310530	2801044915
	1/2	13	230	5FR05S4-2W230	96310510	5FR05S4-3W230	96310535	2801054915
	3/4	18	230	5FR07S4-2W230	96310515	5FR07S4-3W230	96310540	2801074915
	1	22	230	5FR1S4-2W230	96310520	5FR1S4-3W230	96310545	2801084915
	1.5	30	230	5FR15S4-2W230	96310525	5FR15S4-3W230	96310550	2823008610

### PUMP END ONLY ORDERING INFORMATION

Stainless Steel - Pump End Only					Plastic - Pump End Only					
GPM	HP	Stg	Model	Order	GPM	HP	Stg	Model	Order	
5	1/2	13	5FR05S4-PE	96320500	5	1/2	13	5FR05P4-PE	96220500	
	3/4	18	5FR07S4-PE	96320501		3/4	18	5FR07P4-PE	96220501	
	1	22	5FR1S4-PE	96320502		1	22	5FR1P4-PE	96220502	
	1.5	30	5FR15S4-PE	96320503						
	2	38	5FR2S4-PE	96320504						

Notes: Discharge is 1-1/4" NPT. Maximum diameter across cable guard on all models is 3.75".

### CAPACITIES IN U.S. GALLONS PER MINUTE

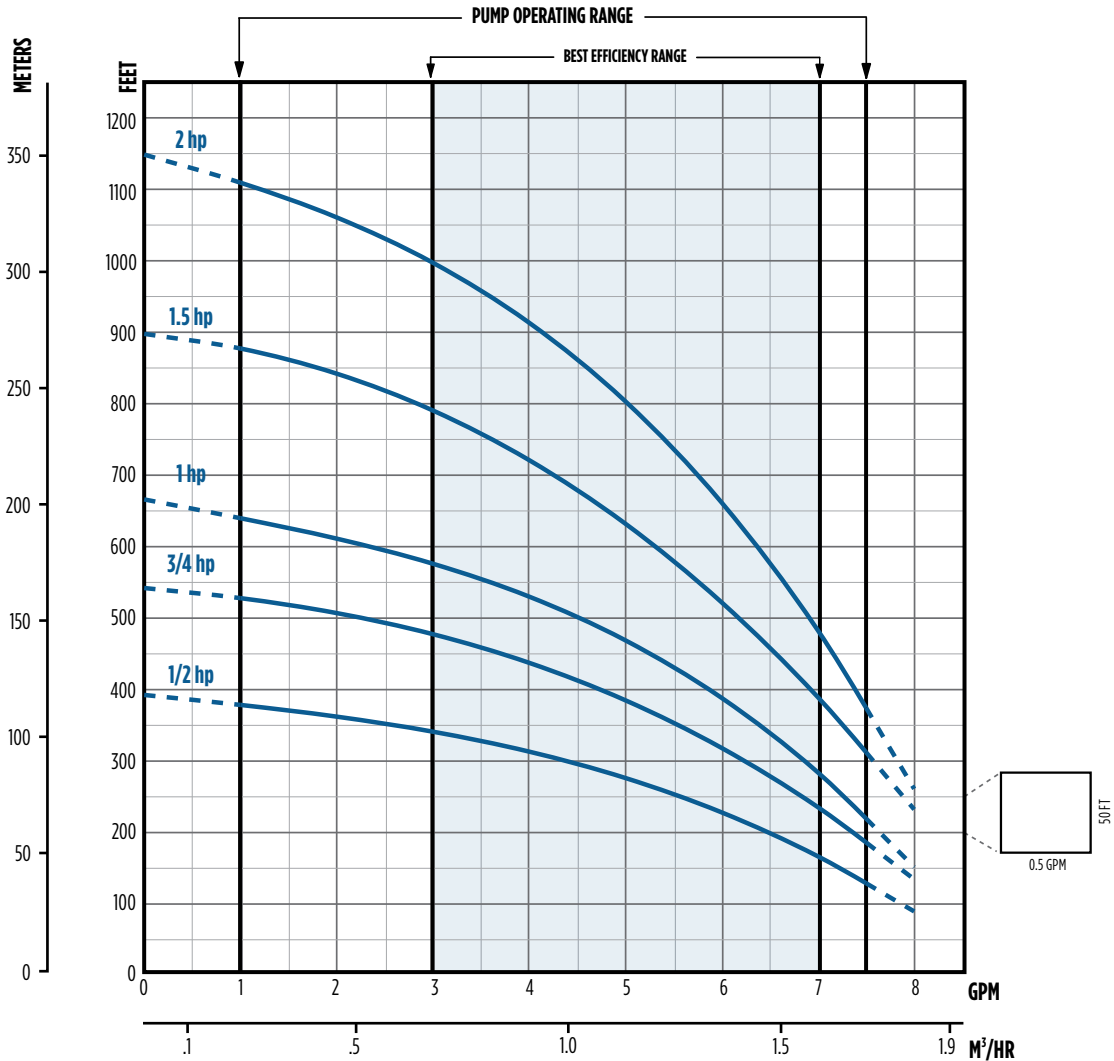
HP	PSI	Depth To Pumping Water Level (Lift) in Feet. Shaded Areas Indicate Most Efficient Performance																							
		20	40	60	80	100	120	140	160	180	200	250	300	350	400	450	500	600	700		800	900	1000		
1/2	0				8	8	8	8	8	8	7	7	6	5	4	3								Shut-off 390 ft	
	20				8	8	7	7	7	7	6	6	6	4	3										
	30	8	8	7	7	7	7	6	6	6	5	4	3												
	40	8	7	7	7	7	6	6	6	5	5	3													
	50	7	7	7	6	6	6	5	5	4	4	2													
	80	6	6	6	5	5	4	4	3	2															
Shut-off PSI		161	152	143	135	126	117	109	100	91	83	61	39	18											
3/4	0				8	8	8	8	8	7	7	6	6	5	4	2								Shut-off 541 ft	
	20				8	8	7	7	7	7	6	6	5	4	2										
	30			8	8	8	7	7	7	7	6	5	4	3	1										
	40		8	8	8	7	7	7	7	7	6	5	4	3											
	50	8	8	8	7	7	7	7	7	6	6	5	4	3	2										
	80	8	8	7	7	7	7	6	6	6	5	4	3	1											
Shut-off PSI		226	217	209	200	191	183	174	165	157	148	126	105	83	61	39	18								
1	0					8	8	8	8	8	7	7	6	6	5	5	2							Shut-off 666 ft	
	20					8	8	8	7	7	7	6	6	5	4	1									
	30				8	8	8	8	7	7	7	6	6	5	4	3									
	40			8	8	8	8	7	7	7	7	6	5	5	4	3									
	50		8	8	8	8	7	7	7	7	7	6	5	5	4	3	2								
	80	8	8	8	7	7	7	7	7	6	6	5	5	4	3	1									
Shut-off PSI		280	271	263	254	245	237	228	219	211	202	180	159	137	115	94	72	29							

Notes: 1. Performance shown does not include friction loss in the drop pipe. 2. All performance data is based on rated motor nameplate voltage.



# 4" 3200 SERIES PUMPS - 5 GPM

## PERFORMANCE



HP	PSI	Depth To Pumping Water Level (Lift) in Feet. Shaded Areas Indicate Most Efficient Performance																				
		20	40	60	80	100	120	140	160	180	200	250	300	350	400	450	500	600	700	800	900	1000
1.5	0									8	8	8	7	7	7	6	5	4	3			
	20									8	8	8	7	7	7	6	5	4	2			
	30								8	8	8	7	7	7	6	6	5	3	1			
	40							8	8	8	8	7	7	7	6	6	5	4	3			
	50					8	8	8	8	8	7	7	7	6	6	5	4	3				
	60				8	8	8	8	8	8	7	7	7	6	6	5	4	2				
	80	8	8	8	8	8	8	7	7	7	7	7	6	6	5	4	3	1				
Shut-off PSI		381	372	364	355	346	338	329	320	312	303	281	260	238	216	195	173	130	86	43		
2	0										8	8	8	7	7	7	6	6	5	4	3	
	20										8	8	8	7	7	7	6	5	5	4	2	
	30										8	8	8	7	7	7	6	5	4	3	2	
	40									8	8	8	8	7	7	7	6	5	4	3	1	
	50							8	8	8	8	8	7	7	7	7	6	5	4	3	1	
	60					8	8	8	8	8	8	7	7	7	7	6	5	5	4	2		
	80				8	8	8	8	8	8	7	7	7	6	6	6	5	4	3	2		
Shut-off PSI		491	482	473	465	456	447	439	430	421	413	391	369	348	326	304	282	239	195	152	109	66

Notes: 1. Performance shown does not include friction loss in the drop pipe. 2. All performance data is based on rated motor nameplate voltage.

## 4" 3200 SERIES PUMPS - 7 GPM

### PLASTIC ORDERING INFORMATION

GPM	HP	Stg	Volts	2-Wire		3-Wire		
				Model	Order	Model	Order	Control Box
7	1/2	10	115	7FR05P4-2W115	96210705	7FR05P4-3W115	96210730	2801044915
	1/2	10	230	7FR05P4-2W230	96210710	7FR05P4-3W230	96210735	2801054915
	3/4	13	230	7FR07P4-2W230	96210715	7FR07P4-3W230	96210740	2801074915
	1	18	230	7FR1P4-2W230	96210720	7FR1P4-3W230	96210745	2801084915

### STAINLESS STEEL ORDERING INFORMATION

GPM	HP	Stg	Volts	2-Wire		3-Wire		
				Model	Order	Model	Order	Control Box
7	1/2	10	115	7FR05S4-2W115	96310705	7FR05S4-3W115	96310730	2801044915
	1/2	10	230	7FR05S4-2W230	96310710	7FR05S4-3W230	96310735	2801054915
	3/4	13	230	7FR07S4-2W230	96310715	7FR07S4-3W230	96310740	2801074915
	1	18	230	7FR1S4-2W230	96310720	7FR1S4-3W230	96310745	2801084915
	1.5	23	230	7FR15S4-2W230	96310725	7FR15S4-3W230	96310750	2823008610

### PUMP END ONLY ORDERING INFORMATION

Stainless Steel - Pump End Only					Plastic - Pump End Only				
GPM	HP	Stg	Model	Order	GPM	HP	Stg	Model	Order
7	1/2	10	7FR05S4-PE	96320700	7	1/2	10	7FR05P4-PE	96220700
	3/4	13	7FR07S4-PE	96320701		3/4	13	7FR07P4-PE	96220701
	1	18	7FR1S4-PE	96320702		1	18	7FR1P4-PE	96220702
	1.5	23	7FR15S4-PE	96320703					
	2	30	7FR2S4-PE	96320704					
	3	38	7FR3S4-PE	96320705					

Notes: Discharge is 1-1/4" NPT. Maximum diameter across cable guard on all models is 3.75".

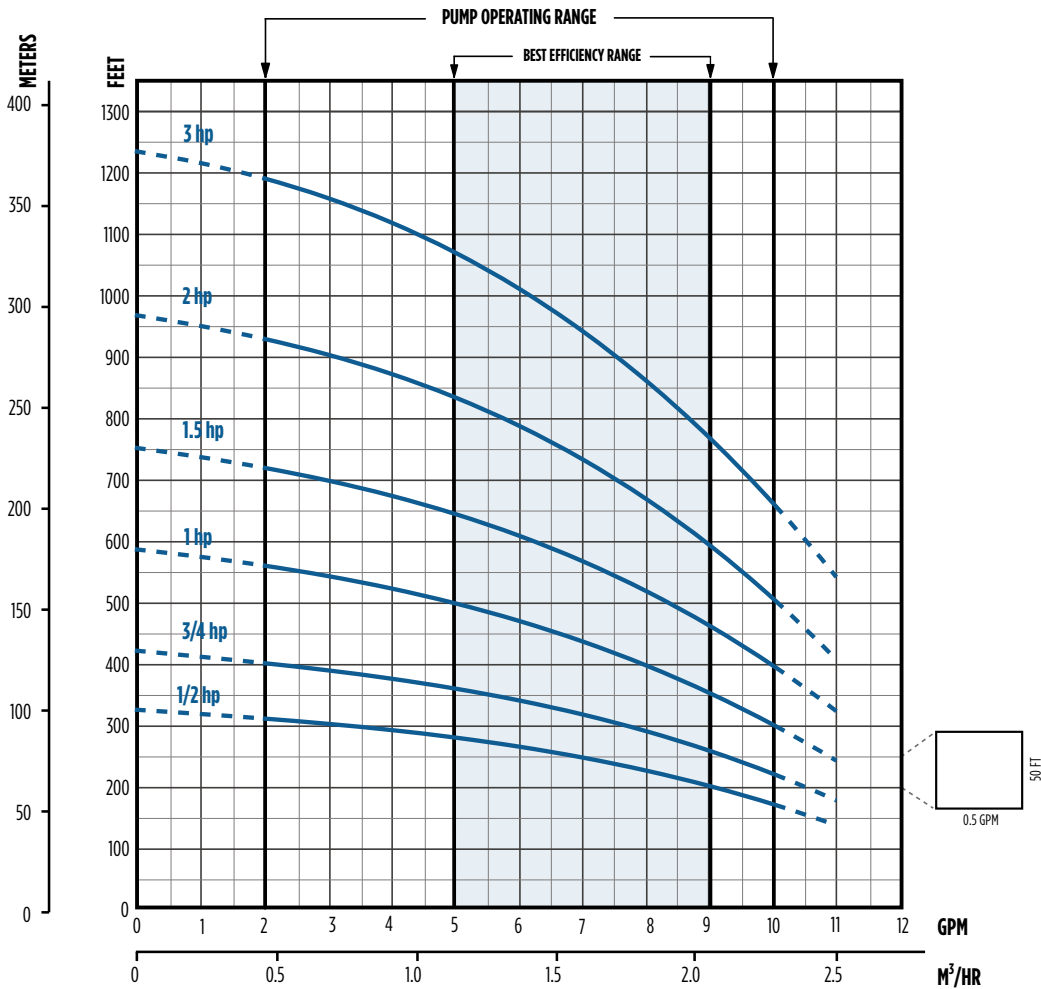
### CAPACITIES IN U.S. GALLONS PER MINUTE

HP	PSI	Depth To Pumping Water Level (Lift) in Feet. Shaded Areas Indicate Most Efficient Performance																						
		20	40	60	80	100	120	140	160	180	200	250	300	350	400	450	500	600	700	800	900		1000	
1/2	0																							Shut-off 324 ft
	20																							
	30																							
	40																							
	50																							
	60																							
	80																							
Shut-off PSI		132	123	115	106	97	89	80	71	63	54	32	10											
3/4	0																						Shut-off 421 ft	
	20																							
	30																							
	40																							
	50																							
	60																							
	80																							
Shut-off PSI		174	165	156	148	139	130	122	113	104	96	74	52	31	9									
1	0																						Shut-off 526 ft	
	20																							
	30																							
	40																							
	50																							
	60																							
	80																							
Shut-off PSI		245	237	228	219	211	202	193	185	176	167	146	124	102	81	59	37							

Notes: 1. Performance shown does not include friction loss in the drop pipe. 2. All performance data is based on rated motor nameplate voltage.

# 4" 3200 SERIES PUMPS - 7 GPM

## PERFORMANCE



HP	PSI	Depth To Pumping Water Level (Lift) in Feet. Shaded Areas Indicate Most Efficient Performance																				
		20	40	60	80	100	120	140	160	180	200	250	300	350	400	450	500	600	700	800	900	1000
1.5	0																					
	20									12	12	11	11	10	9	8	7	5				
	30								12	12	12	11	11	10	10	9	8	7	4			
	40							12	12	12	11	11	10	9	8	8	6	3				
	50						12	12	12	11	11	10	10	9	8	7	6	2				
	60					12	12	11	11	11	10	10	9	9	8	7	5	1				
	80		12	12	12	11	11	11	11	10	10	9	8	7	5	4						
Shut-off PSI		317	309	300	291	283	274	265	257	248	199	218	196	174	153	131	109	66	23			
2	0												12	11	11	11	10	9	8	6	3	
	20											12	12	11	11	10	10	8	7	5	1	
	30											12	12	11	11	10	10	9	8	6	4	
	40									12	12	12	11	11	10	10	9	8	6	3		
	50								12	12	12	11	11	10	10	9	9	7	5	3		
	60							12	12	12	11	11	10	10	10	9	8	7	5	2		
	80						12	12	11	11	11	10	10	9	8	8	8	6	4			
Shut-off PSI		411	403	394	385	376	368	359	350	342	333	312	290	268	247	225	203	160	117	73	30	
3	0				12	11	11	10	9	8	6	4	2									
	20				12	11	10	9	8	7	5	3										
	30				12	12	11	10	9	8	7	5	3									
	40				12	11	11	10	9	8	6	5	2									
	50				12	11	10	10	9	7	6	4	1									
	60				12	11	10	9	8	7	6	4										
	80		12	11	11	10	9	8	6	5	2											
Shut-off PSI		493	450	406	363	319	276	233	189	146	103	59	16									

Notes: 1. Performance shown does not include friction loss in the drop pipe. 2. All performance data is based on rated motor nameplate voltage.

## 4" 3200 SERIES PUMPS - 10 GPM

### PLASTIC ORDERING INFORMATION

GPM	HP	Stg	Volts	2-Wire		3-Wire		
				Model	Order	Model	Order	Control Box
10	1/2	11	115	10FRD05P4-2W115	96211005	10FRD05P4-3W115	96211030	2801044915
	1/2	11	230	10FRD05P4-2W230	96211010	10FRD05P4-3W230	96211035	2801054915
	3/4	14	230	10FRD07P4-2W230	96211015	10FRD07P4-3W230	96211040	2801074915
	1	19	230	10FRD1P4-2W230	96211020	10FRD1P4-3W230	96211045	2801084915

### STAINLESS STEEL ORDERING INFORMATION

GPM	HP	Stg	Volts	2-Wire		3-Wire		
				Model	Order	Model	Order	Control Box
10	1/2	11	115	10FRD05S4-2W115	96310705	10FRD05S4-3W115	96311030	2801044915
	1/2	11	230	10FRD05S4-2W230	96310710	10FRD05S4-3W230	96311035	2801054915
	3/4	14	230	10FRD07S4-2W230	96310715	10FRD07S4-3W230	96311040	2801074915
	1	19	230	10FRD1S4-2W230	96310720	10FRD1S4-3W230	96311045	2801084915
	1.5	24	230	10FRD15S4-2W230	96310725	10FRD15S4-3W230	96311050	2823008610

### PUMP END ONLY ORDERING INFORMATION

Stainless Steel - Pump End Only					Plastic - Pump End Only				
GPM	HP	Stg	Model	Order	GPM	HP	Stg	Model	Order
10	1/2	11	10FRD05S4-PE	96221000	10	1/2	11	10FRD05P4-PE	96321000
	3/4	14	10FRD07S4-PE	96221001		3/4	14	10FRD07P4-PE	96321001
	1	19	10FRD1S4-PE	96221002		1	19	10FRD1P4-PE	96321002
	1.5	24	10FRD15S4-PE	96221003					

### CAPACITIES IN U.S. GALLONS PER MINUTE

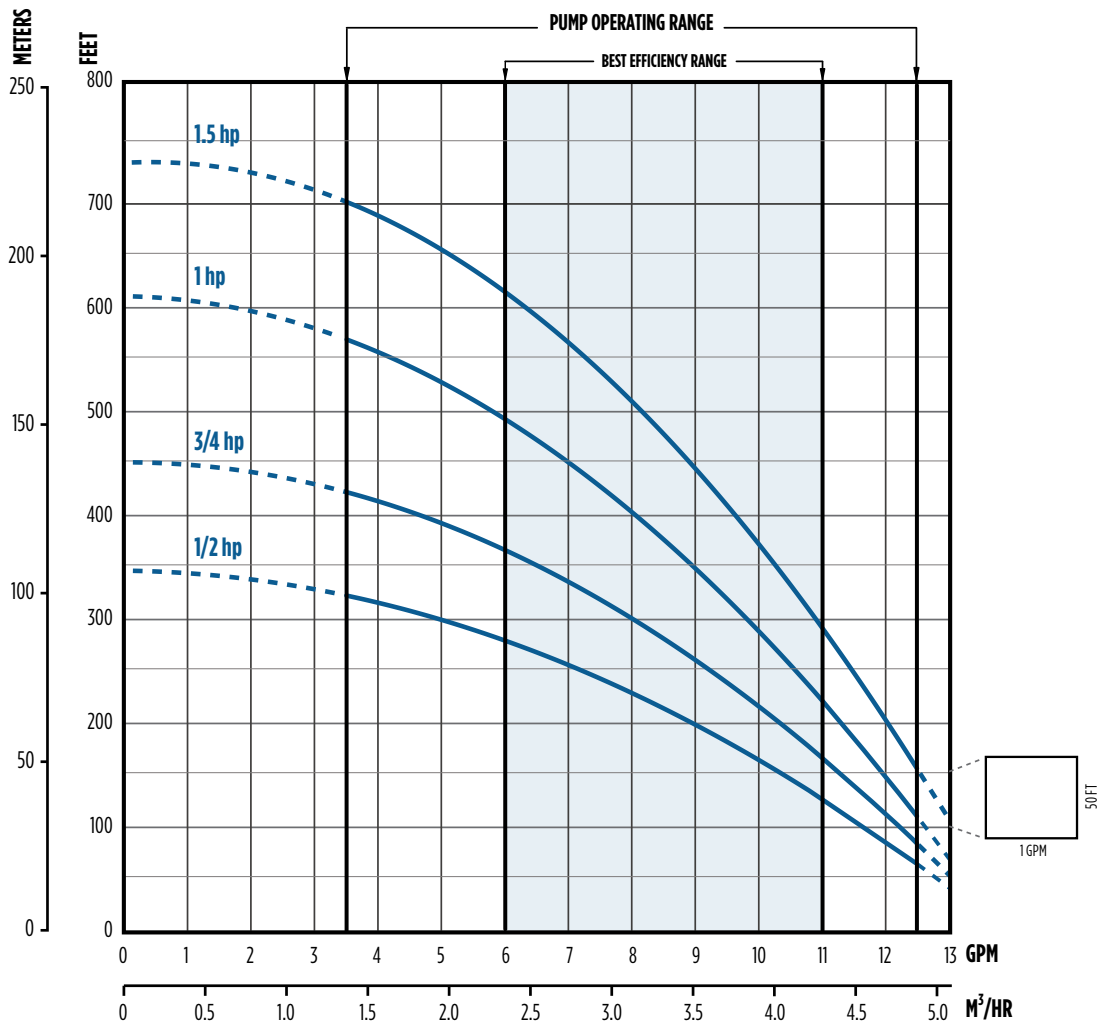
HP	PSI	Depth To Pumping Water Level, Lift, in Feet. Shaded Areas Indicate Most Efficient Performance																								
		0	20	40	60	80	100	120	140	160	180	200	240	280	320	360	400	440	480	500	550		600	650	700	750
1/2	0	14	13	13	13	12	12	11	11	10	10	9	8	6	4	0										
	10	13	13	13	12	12	11	11	10	9	9	8	7	5	1	0										
	20	13	12	12	12	11	11	10	9	9	8	7	6	3	0											
	30	12	12	11	11	10	10	9	9	8	7	6	4	0												
	40	12	11	11	10	10	9	9	8	7	6	5	3	0												
	50	11	11	10	10	9	8	8	7	6	5	4	0													
	60	11	10	10	9	8	8	7	6	5	4	2	0													
	70	10	10	9	8	8	7	6	5	4	2	0														
	80	9	9	8	7	7	6	5	3	1	0															
	Shut-off PSI	153	144	135	127	118	110	101	92	84	75	66	49	32	14	0										
3/4	0	14	14	13	13	13	12	12	12	11	11	10	9	9	7	6	5	2	0							
	10	13	13	13	13	12	12	11	11	11	10	10	9	8	7	5	3	0								
	20	13	13	12	12	12	11	11	11	10	10	9	8	7	6	4	1	0								
	30	13	12	12	12	11	11	11	10	10	9	9	8	7	5	3	0									
	40	12	12	12	11	11	10	10	10	9	9	8	7	6	4	0										
	50	12	12	11	11	10	10	10	9	9	8	8	6	5	3	0										
	60	12	11	11	10	10	10	9	9	8	8	7	6	4	0											
	70	11	11	10	10	9	9	8	8	7	7	6	5	2	0											
	80	11	10	10	9	9	8	8	7	7	6	5	3	0												
	Shut-off PSI	197	188	180	171	162	154	145	136	128	119	110	93	76	58	41	24	6	0							

Notes: 1. Performance shown does not include friction loss in the drop pipe. 2. All performance data is based on rated motor nameplate voltage.



## 4" 3200 SERIES PUMPS - 10 GPM

### PERFORMANCE



HP	PSI	Depth To Pumping Water Level, Lift, in Feet. Shaded Areas Indicate Most Efficient Performance																				Shut-off PSI						
		0	20	40	60	80	100	120	140	160	180	200	240	280	320	360	400	440	480	500	550		600	650	700	750	800	
1	0	14	14	13	13	13	12	12	12	12	11	11	10	10	9	9	8	7	6	6	4	2	0					Shut-off 68 ft
	10	14	13	13	13	13	12	12	12	12	11	11	10	10	9	8	8	7	6	5	3	0						
	20	13	13	13	13	12	12	12	12	11	11	11	10	9	9	8	7	6	5	4	2	0						
	30	13	13	13	12	12	12	11	11	11	11	10	10	9	8	7	7	6	4	4	0							
	40	13	12	12	12	12	11	11	11	11	10	10	9	9	8	7	6	5	3	2	0							
	50	12	12	12	12	11	11	11	11	10	10	10	9	8	7	6	5	4	2	0								
	60	12	12	12	12	11	11	11	10	10	10	10	9	8	8	7	6	5	3	0								
	70	12	12	11	11	11	10	10	10	10	9	9	8	8	7	6	5	4	2	0								
80	12	11	11	11	10	10	10	9	9	9	8	8	7	6	4	3	0											
Shut-off PSI		268	259	250	242	233	224	216	207	198	190	181	164	146	129	112	94	77	60	51	29	8	0					
1.5	0	14	14	14	14	14	13	13	13	13	13	12	12	12	11	11	11	10	9	9	8	7	6	4	2	0	Shut-off 765 ft	
	10	14	14	14	14	13	13	13	13	13	12	12	12	12	11	11	10	10	9	9	8	7	6	5	4	0		
	20	14	14	13	13	13	13	13	12	12	12	12	12	11	11	10	10	9	9	8	8	7	6	5	3	0		
	30	14	13	13	13	13	13	12	12	12	12	12	12	11	11	10	10	9	8	8	7	7	5	4	0			
	40	13	13	13	13	13	12	12	12	12	12	12	11	11	10	10	9	9	8	7	7	6	5	3	0			
	50	13	13	13	13	12	12	12	12	12	11	11	11	10	10	9	8	8	7	7	5	4	0					
	60	13	13	13	12	12	12	12	11	11	11	11	10	10	9	9	8	7	7	6	5	3	0					
	70	13	13	12	12	12	12	11	11	11	11	11	10	10	9	8	8	7	6	6	4	0						
80	12	12	12	12	12	11	11	11	11	10	10	10	9	9	8	7	6	5	3	0								
Shut-off PSI		331	323	314	305	297	288	279	271	262	253	245	227	210	193	175	158	141	123	115	93	71	50	28	6	0		

Notes: 1. Performance shown does not include friction loss in the drop pipe. 2. All performance data is based on rated motor nameplate voltage.

## 4" TRI-SEAL PUMPS

The standard FPS Tri-Seal 4" submersible pump features the Tri-Seal floating stage system. This stage system further improves efficiency and protects against wear when pumping abrasives (sand). For details on how to become a registered dealer and receive a 5-year warranty, contact your local distributor.

### FEATURES

- 300 Series stainless steel hub floats with the impeller maintaining a positive seal
- Phenolic washer provides downthrust protection
- Scalloped impellers provide high efficiency performance and abrasion resistance
- Advanced thermoplastic diffuser and disc - proven abrasion-resistant material
- Floating stage design allows impeller to float independently
- Removable, spring-loaded check valve
- Maximum water temperature: 120 °F/49 °C
- Ceramic shaft sleeve and rubber discharge bearing protect shaft and eliminate sand wear
- Powered by Franklin Electric corrosion-resistant super stainless 4" submersible motors with lightning protection
- Patented impeller hub seal system seals radially and axially to prevent fluid recirculation, providing high performance in the harshest conditions

### Tri-Seal™ Floating Stage System

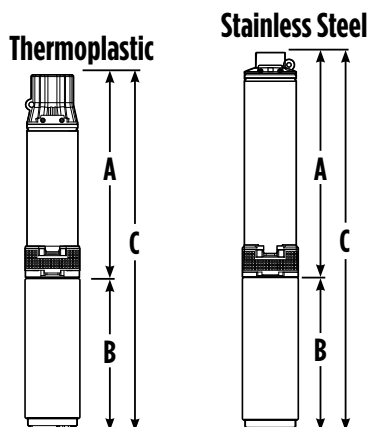
U.S. Patent No. 7,290,984



UL 778  
CSA 108  
NSF/ANSI 372  
NSF/ANSI 61 (Pump end only)

## 4" TRI-SEAL PUMPS

### DIMENSIONS



Plastic with 2-Wire Motors							
GPM	HP	Stages	A	B	C	PE Wt.	PMA Wt.
5	1/2	8	14.12	9.51	23.63	8	26
	3/4	12	17.41	10.64	28.05	9	30
	1	15	19.87	11.73	31.60	10	34
	1.5	21	24.81	15.10	39.91	12	43

7	1/2	7	13.30	9.51	22.81	7	25
	3/4	10	15.76	10.64	26.40	8	29
	1	13	18.23	11.73	29.96	10	34
	1.5	18	22.34	15.10	37.44	11	42

10	1/2	6	12.97	9.51	22.48	7	25
	3/4	8	14.69	10.64	25.33	8	29
	1	11	17.44	11.73	29.17	9	33
	1.5	15	21.06	15.10	36.16	10	41

15	1/2	4	11.45	9.51	20.96	6	24
	3/4	6	12.97	10.64	23.61	7	28
	1	8	14.69	11.73	26.42	8	32
	1.5	11	17.44	15.10	32.54	9	40

20	3/4	5	13.65	10.64	24.29	6	28
	1	7	16.10	11.73	26.42	8	32
	1.5	10	19.77	15.10	34.87	8	39

25	1	6	14.88	11.73	26.61	7	31
	1.5	8	17.32	15.10	32.42	8	39

Plastic with 3-Wire Motors							
GPM	HP	Stages	A	B	C	PE Wt.	PMA Wt.
5	1/2	8	14.12	9.51	23.63	8	26
	3/4	12	17.41	10.64	28.05	9	30
	1	15	19.87	11.73	31.60	10	34
	1.5	21	24.81	13.60	38.41	12	40

7	1/2	7	13.30	9.51	22.81	7	26
	3/4	10	15.76	10.64	26.40	8	29
	1	13	18.23	11.73	29.96	10	34
	1.5	18	22.34	13.60	35.94	11	39

10	1/2	6	12.97	9.51	22.48	7	26
	3/4	8	14.69	10.64	25.33	8	29
	1	11	17.44	11.73	29.17	9	33
	1.5	15	21.06	13.60	34.66	10	38

15	1/2	4	11.45	9.51	20.96	6	25
	3/4	6	12.97	10.64	23.61	7	28
	1	8	14.69	11.73	26.42	8	32
	1.5	11	17.44	13.60	31.04	9	37

20	3/4	5	13.65	10.64	24.29	6	28
	1	7	16.10	11.73	27.83	7	31
	1.5	10	19.77	13.60	33.37	8	36

25	1	6	14.88	11.73	26.61	7	31
	1.5	8	17.32	15.10	30.92	8	36

Notes: All lengths are in inches, all weights are in pounds. Maximum diameter with cable guard is 3.90"  
PE - Pump end only / PMA - Pump and motor assembly

Stainless Steel with 2-Wire Motors							
GPM	HP	Stages	A	B	C	PE Wt.	PMA Wt.
5	1/2	8	13.57	9.51	23.08	10	28
	3/4	12	16.86	10.64	27.50	12	33
	1	15	19.33	11.73	31.06	14	38
	1.5	21	24.26	15.10	39.36	17	48
7	1/2	7	12.75	9.51	22.26	9	27
	3/4	10	15.22	10.64	25.86	11	32
	1	13	17.68	11.73	29.41	13	37
	1.5	18	21.80	15.10	36.90	15	46
10	1/2	6	12.39	9.51	21.90	7	25
	3/4	8	14.14	10.64	24.78	10	31
	1	11	16.85	11.73	28.58	11	35
	1.5	15	20.48	15.10	35.58	14	45
15	1/2	4	10.64	9.51	20.15	7	25
	3/4	6	12.39	10.64	23.03	9	30
	1	8	14.14	11.73	25.87	10	34
	1.5	11	16.85	15.10	31.95	11	42
20	3/4	5	13.10	10.64	23.74	8	29
	1	7	15.55	11.73	27.28	9	33
	1.5	10	19.22	15.10	34.32	11	42
25	1	6	14.33	11.73	26.06	9	33
	1.5	8	16.77	15.10	31.87	10	41

Stainless Steel with 3-Wire Motors							
GPM	HP	Stages	A	B	C	PE Wt.	PMA Wt.
5	1/2	8	13.57	9.51	23.08	10	29
	3/4	12	16.86	10.64	27.50	12	33
	1	15	19.33	11.73	31.06	14	38
	1.5	21	24.26	13.60	37.86	17	45
	2	26	30.46	15.10	45.56	20	N/A
7	1/2	7	12.75	9.51	22.26	9	28
	3/4	10	15.22	10.64	25.86	11	32
	1	13	17.68	11.73	29.41	13	37
	1.5	18	21.80	13.60	35.40	15	43
	2	24	26.73	15.10	41.83	19	N/A
10	3	32	35.39	19.04	54.43	23	N/A
	1/2	6	12.39	9.51	21.90	9	28
	3/4	8	14.14	10.64	24.78	10	31
	1	11	16.85	11.73	28.58	11	35
	1.5	15	20.48	13.60	34.08	14	42
15	2	18	25.26	15.10	40.36	15	N/A
	3	19	26.17	19.04	45.21	16	N/A
	5	31	37.00	29.19	66.19	23	N/A
	1/2	4	10.64	9.51	20.15	7	26
	3/4	6	12.39	10.64	23.03	9	30
20	1	8	14.14	11.73	25.87	10	34
	1.5	11	16.85	13.60	30.45	11	39
	2	14	19.57	15.10	34.67	13	N/A
	3	19	26.17	19.04	45.21	16	N/A
	5	31	37.00	29.19	66.19	23	N/A
25	3/4	5	13.10	10.64	23.74	8	29
	1	7	15.55	11.73	27.28	9	33
	1.5	10	19.22	13.60	32.82	11	39
	2	12	21.66	15.10	36.76	12	N/A
	3	16	26.55	19.04	45.59	14	N/A
	5	26	40.86	29.19	70.05	20	N/A
	7.5	39	60.77	29.60	90.37	27	N/A
25	10	52	76.66	32.60	109.26	35	N/A
	1	6	14.33	11.73	26.06	9	33
	1.5	8	16.77	13.60	30.37	10	38
	2	10	19.22	15.10	34.32	11	N/A
	3	14	24.11	19.04	43.15	13	N/A
	5	23	37.19	28.19	66.38	18	N/A
	7.5	35	55.88	29.60	85.48	25	N/A
10	44	66.88	32.60	99.48	30	N/A	

## 4" TRI-SEAL PUMPS - 5 GPM

### PLASTIC ORDERING INFORMATION

GPM	HP	Stg.	Volts	2-Wire			3-Wire			
				Model	Order	Motor	Model	Order	Motor	Control Box
5	1/2	8	115	5FA05P4-2W115	93780505	2445049004S	5FA05P4-3W115	93780530	2145049004S	2801044915
	1/2	8	230	5FA05P4-2W230	93780510	2445059004S	5FA05P4-3W230	93780535	2145059004S	2801054915
	3/4	12	230	5FA07P4-2W230	93780515	2445079004S	5FA07P4-3W230	93780540	2145079004S	2801074915
	1	15	230	5FA1P4-2W230	93780520	2445089003S	5FA1P4-3W230	93780545	2145089003S	2801084915
	1.5	21	230	5FA15P4-2W230	93780525	2443099004S	5FA15P4-3W230	93780550	2243009203S	2823008110

### STAINLESS STEEL ORDERING INFORMATION

GPM	HP	Stg.	Volts	2-Wire			3-Wire			
				Model	Order	Motor	Model	Order	Motor	Control Box
5	1/2	8	115	5FA05S4-2W115	93810505	2445049004S	5FA05S4-3W115	93810530	2145049004S	2801044915
	1/2	8	230	5FA05S4-2W230	93810510	2445059004S	5FA05S4-3W230	93810535	2145059004S	2801054915
	3/4	12	230	5FA07S4-2W230	93810515	2445079004S	5FA07S4-3W230	93810540	2145079004S	2801074915
	1	15	230	5FA1S4-2W230	93810520	2445089003S	5FA1S4-3W230	93810545	2145089003S	2801084915
	1.5	21	230	5FA15S4-2W230	93810525	2443099004S	5FA15S4-3W230	93810550	2243009203S	2823008110

### PUMP END ONLY ORDERING INFORMATION

Stainless Steel - Pump End Only					Plastic - Pump End Only				
GPM	HP	Stg.	Model	Order	GPM	HP	Stg.	Model	Order
5	1/2	8	5FA05S4-PE	93820505	5	1/2	8	5FA05P4-PE	93790505
	3/4	12	5FA07S4-PE	93820510		3/4	12	5FA07P4-PE	93790510
	1	15	5FA1S4-PE	93820515		1	15	5FA1P4-PE	93790515
	1.5	21	5FA15S4-PE	93820520		1.5	21	5FA15P4-PE	93790520
	2	26	5FA2S4-PE	93820525					

Notes: Discharge is 1-1/4" NPT. Maximum diameter across cable guard is 3.90" on all models.

### CAPACITIES IN U.S. GALLONS PER MINUTE

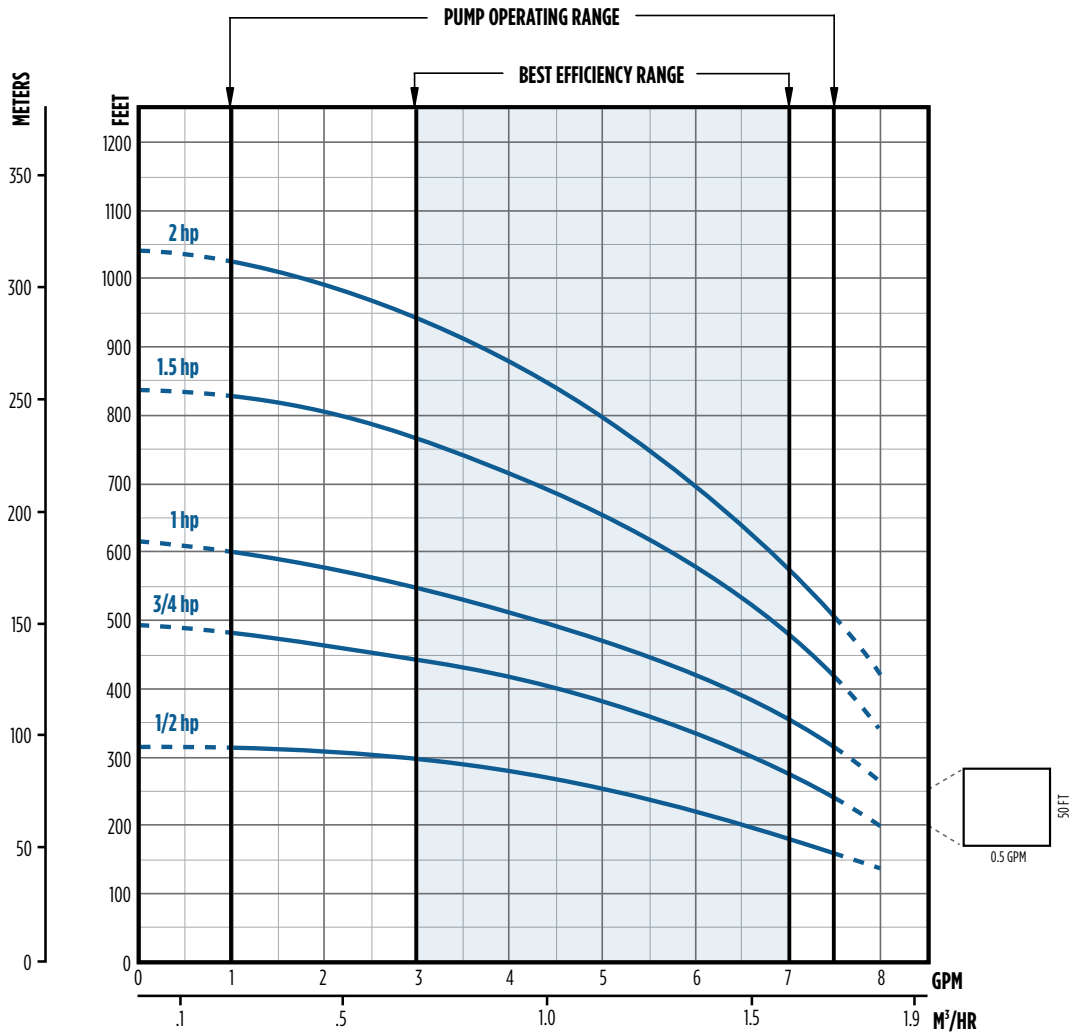
HP	PSI	Depth To Pumping Water Level (Lift) in Feet. Shaded Areas Indicate Most Efficient Performance																								
		20	40	60	80	100	120	140	160	180	200	240	260	300	360	400	440	480	500	600	700		800	900	1000	
1/2	0																									Shut-off 315 ft
	20					8	7	6	6	5	5	3	2													
	30				7	7	6	6	5	4	2															
	40			7	7	6	6	5	4	3																
	50		7	6	6	6	5	5	4	2																
	60	7	7	6	6	5	4	4	2																	
	80	6	6	5	4	3																				
Shut-off PSI	127	119	110	101	93	84	75	67	58	49	32	23														
3/4	0										7	7	7	6	5	4	3								Shut-off 505 ft	
	20									7	7	7	6	6	5	4	3									
	30							7	7	7	6	6	6	5	4	3										
	40							7	7	7	6	6	6	5	4	2										
	50					7	7	7	6	6	6	5	5	4												
	60				7	7	7	6	6	6	5	5	4	3												
	80	7	7	7	6	6	6	5	5	4	3	3														
Shut-off PSI	205	196	188	179	171	162	153	145	136	127	110	101	84	58	41	23										
1	0												8	7	6	6	5	4	4					Shut-off 615 ft		
	20												7	7	7	6	5	4	3							
	30												7	7	7	6	5	3	2							
	40												7	7	7	6	5	4	3							
	50												7	7	7	6	6	4	3							
	60												7	7	7	6	6	5	4							
	80												7	7	7	6	5	4								
Shut-off PSI	257	248	240	231	222	214	205	197	188	179	162	153	136	110	93	75	58	49								

Notes: 1. Performance shown does not include friction loss in the drop pipe. 2. All performance data is based on rated motor nameplate voltage.



# 4" TRI-SEAL PUMPS - 5 GPM

## PERFORMANCE



HP	PSI	Depth to Pumping Water Level (Lift) in Feet. Shaded Areas Indicate Most Efficient Performance																							
		20	40	60	80	100	120	140	160	180	200	240	260	300	360	400	440	480	500	600	700	800	900	1000	
1.5	0															7	7	7	6	5	4	2			
	20												7	7	7	6	6	6	5	4	3				
	30												7	7	7	6	6	6	4	3					
	40											7	7	7	6	6	6	5	4	2					
	50										7	7	7	7	6	6	5	5	3						
	60										7	7	7	7	6	5	5	5	3						
	80								7	7	7	7	6	6	5	5	4	4	2						
Shut-off PSI		352	344	335	326	318	309	300	292	283	274	257	249	231	205	188	171	153	145	101	58	15			
2	0															7	7	7	6	5	4	3			
	20														7	7	7	7	6	5	4	2			
	30													7	7	7	7	6	6	5	3				
	40													7	7	7	6	6	6	5	3				
	50											7	7	7	7	6	6	6	5	4	3				
	60											7	7	7	7	6	6	6	5	4	3				
	80										7	7	7	7	6	6	6	6	5	3					
Shut-off PSI		441	432	424	415	406	398	389	381	372	363	346	337	320	294	277	259	242	233	190	147	104	60		

Notes: 1. Performance shown does not include friction loss in the drop pipe. 2. All performance data is based on rated motor nameplate voltage.

## 4" TRI-SEAL PUMPS - 7 GPM

### PLASTIC ORDERING INFORMATION

GPM	HP	Stg.	Volts	2-Wire			3-Wire			
				Model	Order	Motor	Model	Order	Motor	Control Box
7	1/2	7	115	7FA05P4-2W115	93780705	2445049004S	7FA05P4-3W115	93780730	2145049004S	2801044915
	1/2	7	230	7FA05P4-2W230	93780710	2445059004S	7FA05P4-3W230	93780735	2145059004S	2801054915
	3/4	10	230	7FA07P4-2W230	93780715	2445079004S	7FA07P4-3W230	93780740	2145079004S	2801074915
	1	13	230	7FA1P4-2W230	93780720	2445089003S	7FA1P4-3W230	93780745	2145089003S	2801084915
	1.5	18	230	7FA15P4-2W230	93780725	2443099004S	7FA15P4-3W230	93780750	2243009203S	2823008110

### STAINLESS STEEL ORDERING INFORMATION

GPM	HP	Stg.	Volts	2-Wire			3-Wire			
				Model	Order	Motor	Model	Order	Motor	Control Box
7	1/2	7	115	7FA05S4-2W115	93810705	2445049004S	7FA05S4-3W115	93810730	2145049004S	2801044915
	1/2	7	230	7FA05S4-2W230	93810710	2445059004S	7FA05S4-3W230	93810735	2145059004S	2801054915
	3/4	10	230	7FA07S4-2W230	93810715	2445079004S	7FA07S4-3W230	93810740	2145079004S	2801074915
	1	13	230	7FA1S4-2W230	93810720	2445089003S	7FA1S4-3W230	93810745	2145089003S	2801084915
	1.5	18	230	7FA15S4-2W230	93810725	2443099004S	7FA15S4-3W230	93810750	2243009203S	2823008110

### PUMP END ONLY ORDERING INFORMATION

Stainless Steel - Pump End Only					Plastic - Pump End Only				
GPM	HP	Stg.	Model	Order	GPM	HP	Stg.	Model	Order
7	1/2	7	7FA05S4-PE	93820705	7	1/2	7	7FA05P4-PE	93790705
	3/4	10	7FA07S4-PE	93820710		3/4	10	7FA07P4-PE	93790710
	1	13	7FA1S4-PE	93820715		1	13	7FA1P4-PE	93790715
	1.5	18	7FA15S4-PE	93820720		1.5	18	7FA15P4-PE	93790720
	2	24	7FA2S4-PE	93820725					
	3	32	7FA3S4-PE	93820730					

Notes: Discharge is 1-1/4" NPT. Maximum diameter across cable guard is 3.90" on all models.

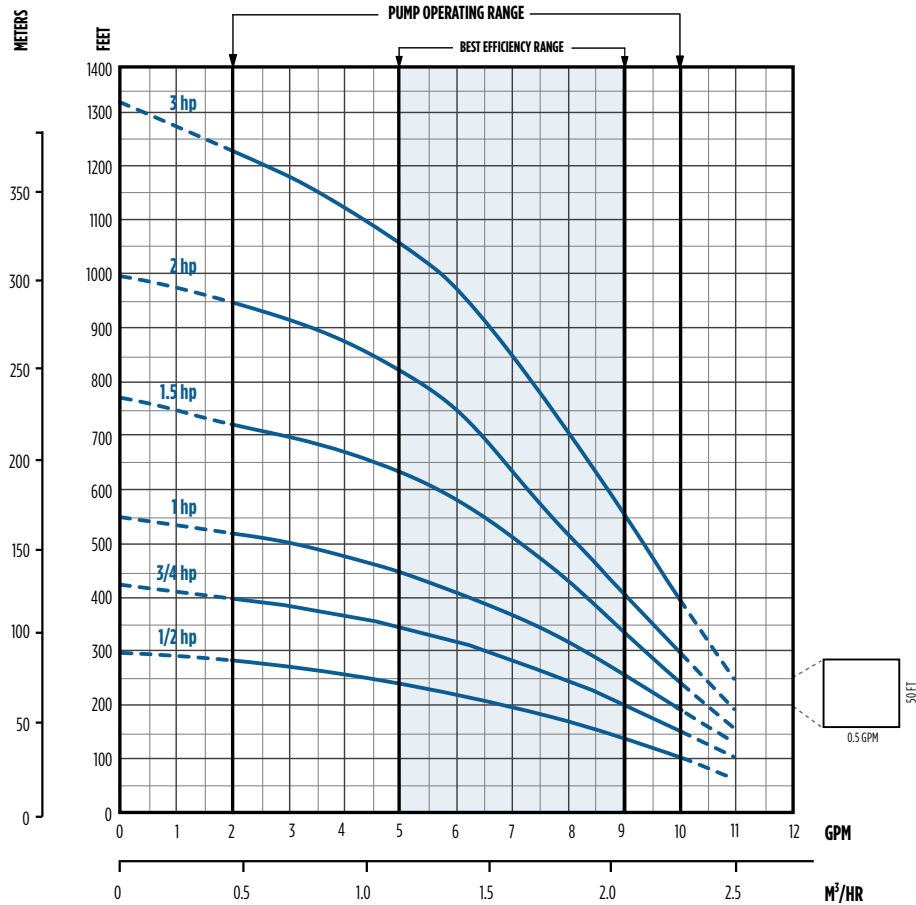
### CAPACITIES IN U.S. GALLONS PER MINUTE

HP	PSI	Depth To Pumping Water Level (Lift) in Feet. Shaded Areas Indicate Most Efficient Performance																							
		20	40	60	80	100	120	140	160	180	200	240	260	300	360	400	440	480	500	600	700	800	900	1000	
1.5	0																								
	20																								
	30																								
	40																								
	50																								
	60																								
	80																								
Shut-off PSI		322	313	305	296	287	279	270	261	253	244	227	218	201	175	158	140	123	114	71	28				
2	0																								
	20																								
	30																								
	40																								
	50																								
	60																								
	80																								
Shut-off PSI		421	412	404	395	386	378	369	360	352	343	326	317	300	274	257	239	222	213	170	127	84	40		
1	0																								
	20																								
	30																								
	40																								
	50																								
	60																								
	80																								
Shut-off PSI		226	218	209	200	192	183	174	166	157	148	131	123	105	79	62	45	27	18						

Notes: 1. Performance shown does not include friction loss in the drop pipe. 2. All performance data is based on rated motor nameplate voltage.

# 4" TRI-SEAL PUMPS - 7 GPM

## PERFORMANCE



HP	PSI	Depth To Pumping Water Level (Lift) in Feet. Shaded Areas Indicate Most Efficient Performance																							
		20	40	60	80	100	120	140	160	180	200	240	260	300	360	400	440	480	500		600	700	800	900	1000
1.5	0																								Shut-off 765 ft
	20						10	10	10	10	10	9	9	9	8	8	7	7	6	6	5	2			
	30				10	10	10	10	10	9	9	9	9	8	8	7	7	6	6	5	3				
	40			10	10	10	10	10	9	9	9	9	8	8	7	7	6	6	5	3					
	50		10	10	10	10	10	9	9	9	9	8	8	7	7	6	6	5	5						
	60	10	10	10	10	9	9	9	9	9	8	8	8	7	7	6	6	5	4						
	80	10	10	9	9	9	9	9	8	8	8	7	7	6	6	5	4	3							
Shut-off PSI		322	313	305	296	287	279	270	261	253	244	227	218	201	175	158	140	123	114	71	28				
2	0																							Shut-off 995 ft	
	20						10	10	10	10	10	10	9	9	9	8	8	7	7	6	6	4			
	30						10	10	10	10	10	9	9	9	8	8	8	7	7	6	5	4			
	40					10	10	10	10	10	9	9	9	9	8	8	7	7	7	6	5	3			
	50				10	10	10	10	10	9	9	9	9	8	8	7	7	7	6	5	3				
	60			10	10	10	10	10	10	9	9	9	9	8	8	7	7	7	6	4					
	80	10	10	10	10	10	9	9	9	9	9	8	8	7	7	7	6	6	5	3					
Shut-off PSI		421	412	404	395	386	378	369	360	352	343	326	317	300	274	257	239	222	213	170	127	84	40		
3	0																							Shut-off 1310 ft	
	20			10	9	9	8	8	7	6	5	4	2												
	30			10	9	9	8	8	7	6	6	4	3												
	40			10	9	9	8	8	7	7	6	5	4												
	50		10	10	9	8	8	8	7	7	6	5	4												
	60	10	10	9	8	8	8	7	7	6	5	3													
	80	10	9	8	8	7	7	6	5	4	2														
Shut-off PSI		523	480	437	394	350	307	264	221	177	134	91	48												

Notes: 1. Performance shown does not include friction loss in the drop pipe. 2. All performance data is based on rated motor nameplate voltage.

## 4" TRI-SEAL PUMPS - 10 GPM

### PLASTIC ORDERING INFORMATION

GPM	HP	Stg.	Volts	2-Wire			3-Wire			
				Model	Order	Motor	Model	Order	Motor	Control Box
10	1/2	6	115	10FA05P4-2W115	93781005	2445049004S	10FA05P4-3W115	93781030	2145049004S	2801044915
	1/2	6	230	10FA05P4-2W230	93780710	2445059004S	10FA05P4-3W230	93781035	2145059004S	2801054915
	3/4	8	230	10FA07P4-2W230	93781015	2445079004S	10FA07P4-3W230	93781040	2145079004S	2801074915
	1	11	230	10FA1P4-2W230	93781020	2445089003S	10FA1P4-3W230	93781045	2145089003S	2801084915
	1.5	15	230	10FA15P4-2W230	93781025	2443099004S	10FA15P4-3W230	93781050	2243009203S	2823008110

### STAINLESS STEEL ORDERING INFORMATION

GPM	HP	Stg.	Volts	2-Wire			3-Wire			
				Model	Order	Motor	Model	Order	Motor	Control Box
10	1/2	6	115	10FA05S4-2W115	93811005	2445049004S	10FA05S4-3W115	93811030	2145049004S	2801044915
	1/2	6	230	10FA05S4-2W230	93811010	2445059004S	10FA05S4-3W230	93811035	2145059004S	2801054915
	3/4	8	230	10FA07S4-2W230	93811015	2445079004S	10FA07S4-3W230	93811040	2145079004S	2801074915
	1	11	230	10FA1S4-2W230	93811020	2445089003S	10FA1S4-3W230	93811045	2145089003S	2801084915
	1.5	15	230	10FA15S4-2W230	93811025	2443099004S	10FA15S4-3W230	93811050	2243009203S	2823008110

### PUMP END ONLY ORDERING INFORMATION

Stainless Steel - Pump End Only					Plastic - Pump End Only				
GPM	HP	Stg.	Model	Order	GPM	HP	Stg.	Model	Order
10	1/2	6	10FA05S4-PE	93821005	10	1/2	6	10FA05P4-PE	93791005
	3/4	8	10FA07S4-PE	93821010		3/4	8	10FA07P4-PE	93791010
	1	11	10FA1S4-PE	93821015		1	11	10FA1P4-PE	93791015
	1.5	15	10FA15S4-PE	93821020		1.5	15	10FA15P4-PE	93791020
	2	18	10FA2S4-PE	93821025					
	3	24	10FA3S4-PE	93821030					
	5	39	10FA5S4-PE	93821035					

Notes: Discharge is 1-1/4" NPT. Maximum diameter across cable guard is 3.90" on all models.

### CAPACITIES IN U.S. GALLONS PER MINUTE

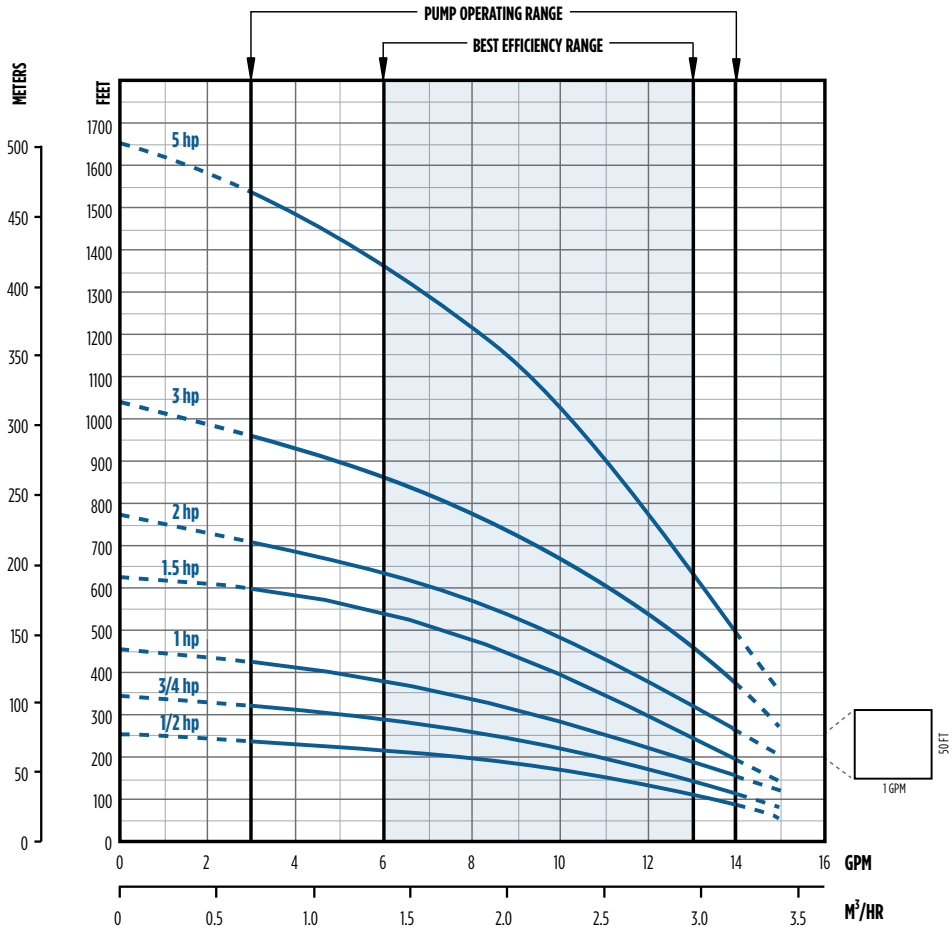
HP	PSI	Depth to Pumping Water Level (Lift) in Feet. Shaded Areas Indicate Most Efficient Performance																							
		20	40	60	80	100	120	140	160	180	200	240	260	300	360	400	440	480	500	600	700	800	900	1000	
1/2	0				14	13	12	11	10	9	7														
	20	14	13	13	12	11	10	8	6	3															
	30	13	13	12	11	10	8	6	3																
	40	13	12	11	10	8	6	3																	
	50	12	11	9	8	5	3																		
	60	11	10	7	4																				
	80	8	6	4																					
Shut-off PSI		97	88	80	71	62	54	45	36	28	19														
3/4	0				14	13	13	12	11	10	7	8	4												
	20		14	13	13	12	12	11	10	9	8	6	4												
	30	14	14	13	12	12	11	10	9	8	7	3													
	40	14	13	12	12	11	10	9	8	7	6														
	50	13	12	11	11	10	9	8	7	5	3														
	60	12	11	11	10	9	8	6	5																
	80	11	10	9	8	6	5																		
Shut-off PSI		137	129	120	111	103	94	85	77	68	59	42	34	16											
1	0				14	13	13	12	11	10	9	7	4												
	20				14	13	13	12	11	11	9	9	7	3											
	30				14	13	13	12	11	11	10	9	8	6											
	40			14	13	13	12	11	11	10	9	8	7	5											
	50		14	13	13	12	11	11	10	9	8	7	6												
	60	13	12	12	11	11	10	10	9	8	8	5	4												
	80	12	12	11	10	10	9	8	7	6	5														
Shut-off PSI		183	174	157	148	140	131	123	114	105	97	79	71	53	27	10									
1.5	0						14	13	13	13	12	12	12	10	9	9	8	7							
	20						14	13	13	12	12	12	11	11	9	8	7	6	5						
	30						14	13	13	12	12	12	11	11	10	10	8	8	6	5	4				
	40				14	13	13	12	12	12	12	11	10	10	8	7	6	4							
	50				14	13	13	12	12	12	11	10	10	9	8	6	5	3							
	60		14	13	13	13	12	12	11	11	11	10	9	9	7	6	4								
	80	13	13	13	12	12	11	11	11	10	10	9	9	8	6	3									
Shut-off PSI		257	248	240	231	222	214	205	197	188	179	162	153	136	110	93	75	41	32						

Notes: 1. Performance shown does not include friction loss in the drop pipe. 2. All performance data is based on rated motor nameplate voltage.



# 4" TRI-SEAL PUMPS - 10 GPM

## PERFORMANCE



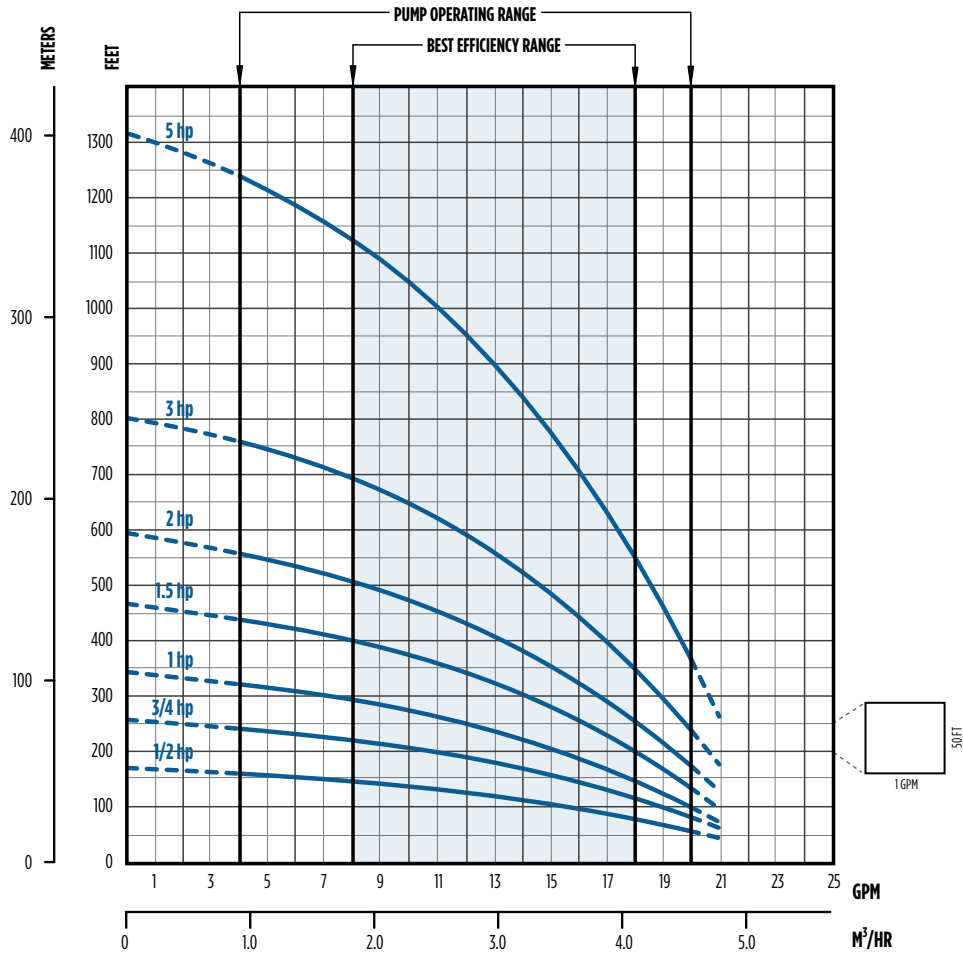
HP	PSI	Depth To Pumping Water Level (Lift) in Feet. Shaded Areas Indicate Most Efficient Performance																				
		20	40	60	80	100	120	140	160	180	200	240	260	300	360	400	440	480	500			
2	0										14	13	13	12	11	10	10	9	6			
	20									14	13	13	12	11	10	9	9	8	5			
	30								14	13	13	12	12	10	10	9	8	8	4			
	40							14	13	13	12	12	11	10	9	9	8	7	3			
	50						14	13	13	12	12	11	11	10	9	8	7	6				
	60					14	13	13	12	12	11	11	10	9	8	7	6	5				
	80		14	13	13	12	12	12	11	11	10	9	8	8	6	4	4					
	Shut-off PSI	324	316	307	298	290	281	272	264	255	246	229	220	203	177	160	143	125	117	73		
3	0												14	13	13	12	12	11	9	7	5	
	20												14	13	12	12	12	10	8	6	3	
	30											14	14	13	13	12	12	11	10	8	5	
	40										14	14	14	13	13	12	12	11	9	7	4	
	50									14	14	14	13	13	12	12	11	11	9	7	4	
	60									14	14	14	13	13	12	12	11	11	10	9	6	3
	80						14	14	13	13	13	12	12	11	11	10	10	10	8	5		
	Shut-off PSI	438	430	421	413	404	395	387	378	369	361	343	335	317	291	274	257	240	231	188	144	101
5	0																					
	20				14	13	12	12	11	10	9	8	7	6	4							
	30				14	13	12	12	11	10	9	8	7	5	4							
	40				14	13	12	11	11	10	9	8	7	5	3							
	50				14	13	13	12	11	10	9	9	7	6	5	3						
	60				14	13	13	12	11	10	9	8	7	6	4							
	80		14	14	13	12	11	11	10	9	8	7	5	3								
	Shut-off PSI	670	626	583	540	497	453	410	367	324	280	237	194	151	107							

Notes: 1. Performance shown does not include friction loss in the drop pipe. 2. All performance data is based on rated motor nameplate voltage.



# 4" TRI-SEAL PUMPS - 15 GPM

## PERFORMANCE



HP	PSI	Depth to Pumping Water Level (Lift) in Feet. Shaded Areas Indicate Most Efficient Performance																Shut-off PSI										
		20	40	60	80	100	120	140	160	180	200	240	260	300	360	400	440		480	500	600	700	800	900	1000	1100	1200	
2	0																											
	20										14	13	13	13	12	11	10	10	9	8	6							
	30										14	13	13	12	12	10	10	9	8	8	5							
	40								14		13	13	12	12	11	10	9	8	7	7	3							
	50							14	13		13	13	12	12	11	10	9	8	7	6								
	60					14	13	13	13	12	12	11	11	10	9	8	7	6	5									
	80				14	13	13	12	12	12	11	11	10	9	8	8	6	4	4									
Shut-off PSI		324	316	307	298	290	281	272	264	255	246	229	220	203	177	160	143	125	117	73								
3	0																											
	20									20	20	20	19	18	17	16	15	14	13	10	8							
	30									20	20	20	19	18	18	16	15	14	13	9	5							
	40									20	20	20	19	18	17	16	15	14	13	12	8							
	50									20	20	20	19	18	17	15	14	13	12	11	7							
	60					20	20	20	19	19	18	17	17	16	15	14	12	11	10	5								
	80	20	20	20	20	19	19	19	18	18	17	16	16	15	13	12	11	9	8									
Shut-off PSI		339	330	321	313	304	295	287	278	269	261	243	235	217	191	174	157	139	131	87	44							
5	0																											
	20														20	20	19	19	17	15	12	8						
	30														20	20	19	19	18	17	15	14	12	10	7	4		
	40														20	20	20	19	18	18	16	15	13	11	9	6		
	50														20	20	20	19	18	17	17	16	14	13	11	8	5	
	60														20	20	20	19	18	18	17	16	14	12	10	8	4	
	80														20	20	20	19	18	17	17	16	15	13	11	9	6	
Shut-off PSI		561	553	544	535	527	518	509	501	492	483	466	457	440	414	397	379	362	353	310	267	224	180	137	94	50		

Notes: 1. Performance shown does not include friction loss in the drop pipe. 2. All performance data is based on rated motor nameplate voltage.

## 4" TRI-SEAL PUMPS - 20 GPM

### PLASTIC ORDERING INFORMATION

GPM	HP	Stg.	Volts	2-Wire			3-Wire			
				Model	Order	Motor	Model	Order	Motor	Control Box
20	3/4	5	230	20FA07P4-2W230	93782015	2445079004S	20FA07P4-3W230	93782040	2145079004S	2801074915
	1	7	230	20FA1P4-2W230	93782020	2445089003S	20FA1P4-3W230	93782045	2145089003S	2801084915
	1.5	10	230	20FA15P4-2W230	93782025	2443099004S	20FA15P4-3W230	93782050	2243009203S	2823008110

### STAINLESS STEEL ORDERING INFORMATION

GPM	HP	Stg.	Volts	2-Wire			3-Wire			
				Model	Order	Motor	Model	Order	Motor	Control Box
20	3/4	5	230	20FA07S4-2W230	93812015	2445079004S	20FA07S4-3W230	93812040	2145079004S	2801074915
	1	7	230	20FA1S4-2W230	93812020	2445089003S	20FA1S4-3W230	93812045	2145089003S	2801084915
	1.5	10	230	20FA15S4-2W230	93812025	2443099004S	20FA15S4-3W230	93812050	2243009203S	2823008110

### PUMP END ONLY ORDERING INFORMATION

Stainless Steel - Pump End Only					Plastic - Pump End Only				
GPM	HP	Stg.	Model	Order	GPM	HP	Stg.	Model	Order
20	3/4	5	20FA07S4-PE	93822010	20	3/4	5	20FA07P4-PE	93792010
	1	7	20FA1S4-PE	93822015		1	7	20FA1P4-PE	93792015
	1.5	10	20FA15S4-PE	93822020		1.5	10	20FA15P4-PE	93792020
	2	12	20FA2S4-PE	93822025					
	3	16	20FA3S4-PE	93822030					
	5	26	20FA5S4-PE	93822035					
	7.5	39	20FA7S4-PE	93822040					
10	52	20FA10S4-PE	93822045						

Notes: Discharge is 1-1/4" NPT. Maximum diameter across cable guard is 3.90" on all models.

### CAPACITIES IN U.S. GALLONS PER MINUTE

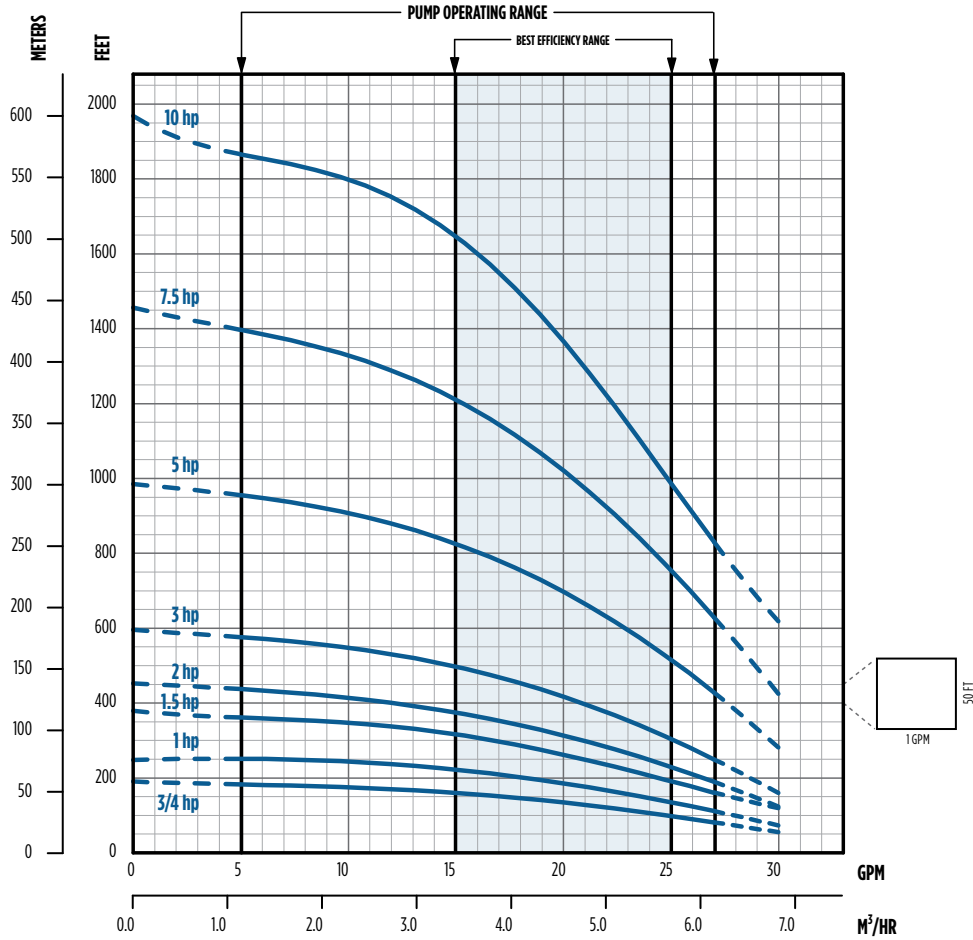
HP	PSI	Depth to Pumping Water Level (Lift) in Feet. Shaded Areas Indicate Most Efficient Performance																								
		20	40	60	80	100	120	140	160	180	200	240	260	300	360	400	440	480	500	600	700		800	900	1000	
3/4	0				24	22	21	18	14																Shut-off 89 ft.	
	20		23	21	19	17	12																			
	30	23	21	19	17	11																				
	40	21	19	17	10																					
	50	19	16	10																						
	60	14																								
	Shut-off PSI	74	65	56	48	39	30	22	13																	
1	0				26	25	23	20	18	11															Shut-off 25 ft.	
	20			27	26	24	22	20	18	15	8															
	30		27	26	24	22	19	17	14	7																
	40	27	25	23	21	19	17	13																		
	50	25	23	21	19	16	12																			
	60	23	21	18	16	11																				
	Shut-off PSI	100	91	83	74	66	57	48	40	31	22	5														
1.5	0						27	26	24	22	20	17	6												Shut-off 29 ft.	
	20						27	25	24	23	21	18	16	10												
	30						26	25	24	22	21	20	16	13												
	40				26	25	23	22	21	19	18	13	8													
	50		27	26	25	23	22	21	19	17	15	7														
	60	27	26	24	23	22	20	19	17	15	11															
	Shut-off PSI	156	147	138	130	121	112	104	95	86	78	60	52	34	8											
2	0										24	23	20	16	12										Shut-off 45 ft.	
	20										24	21	20	17	12											
	30									24	23	22	20	19	16											
	40									24	23	22	21	19	17	14										
	50									24	23	22	20	19	16	14	10									
	60						24	23	22	20	19	18	14	12												
	Shut-off PSI	187	179	170	161	153	144	135	127	118	110	92	84	66	40	23										
3	0												24	22	20	18	16	14							Shut-off 60 ft.	
	20												24	23	20	17	15	12	10							
	30												24	23	21	18	16	13	10							
	40												24	23	22	20	17	14	11							
	50												24	24	22	21	19	16	13							
	60												24	24	23	21	20	18	14	10						
	Shut-off PSI	251	242	234	225	216	208	199	190	182	173	156	147	130	104	87	69	52	43							

Notes: 1. Performance shown does not include friction loss in the drop pipe. 2. All performance data is based on rated motor nameplate voltage.



# 4" TRI-SEAL PUMPS - 20 GPM

## PERFORMANCE



HP	PSI	Depth to Pumping Water Level (Lift) in Feet. Shaded Areas Indicate Most Efficient Performance																						
		20	40	60	80	100	120	140	160	180	200	240	260	300	360	400	440	480	500	600	700	800	900	1000
5	0																		24	23	20	16		
	20																		24	24	21	18		
	30																	24	23	20	17			
	40																	24	22	22	17	15		
	50																	24	23	21	18	14		
	60																	24	22	21	20	16	10	
	80																	24	22	21	20	16	10	
	Shut-off PSI	416	408	399	390	382	373	364	356	347	339	321	313	295	269	252	235	217	209	165	122	79		
	7.5	0					27	26	24	22	20	18	15	11	5									
20						27	25	23	22	19	17	14	9											
30						26	25	23	21	19	16	13	7											
40						26	24	23	21	18	16	12	6											
50						27	26	24	22	20	18	15	11											
60						27	25	24	22	20	17	14	9											
80		27	26	26	24	23	21	19	16	12	6													
Shut-off PSI		440	423	414	371	327	284	241	197	154	111	68	24											
10		0							26	25	23	22	21	20	18	16	13	9						
	20							27	25	24	23	22	20	19	17	15	12	7						
	30							27	25	24	23	21	20	19	17	14	11	6						
	40							26	25	23	22	21	20	18	16	14	10							
	50							27	26	24	23	22	21	20	18	16	13	8						
	60							27	26	24	23	22	21	19	18	15	12	7						
	80							26	25	24	22	21	20	19	17	14	10	5						
	Shut-off PSI	662	644	636	592	549	506	462	419	376	333	289	246	203	159	116	73							

Notes: 1. Performance shown does not include friction loss in the drop pipe. 2. All performance data is based on rated motor nameplate voltage.

## 4" TRI-SEAL PUMPS - 25 GPM

### PLASTIC ORDERING INFORMATION

GPM	HP	Stg.	Volts	2-Wire			3-Wire			
				Model	Order	Motor	Model	Order	Motor	Control Box
25	1	6	230	25FA1P4-2W230	93782520	2445089003S	25FA1P4-3W230	93782545	2145089003S	2801084915
	1.5	8	230	25FA15P4-2W230	93782525	2443099004S	25FA15P4-3W230	93782550	2243009203S	2823008110

### STAINLESS STEEL ORDERING INFORMATION

GPM	HP	Stg.	Volts	2-Wire			3-Wire			
				Model	Order	Motor	Model	Order	Motor	Control Box
25	1	6	230	25FA1S4-2W230	93812520	2445089003S	25FA1S4-3W230	93812545	2145089003S	2801084915
	1.5	8	230	25FA15S4-2W230	93812525	2443099004S	25FA15S4-3W230	93812550	2243009203S	2823008110

### PUMP END ONLY ORDERING INFORMATION

Stainless Steel - Pump End Only					Plastic - Pump End Only				
GPM	HP	Stg.	Model	Order	GPM	HP	Stg.	Model	Order
25	1	6	25FA1S4-PE	93822515	25	1	6	25FA1P4-PE	93792515
	1.5	8	25FA15S4-PE	93822520		1.5	8	25FA15P4-PE	93792520
	2	10	25FA2S4-PE	93822525					
	3	14	25FA3S4-PE	93822530					
	5	23	25FA5S4-PE	93822535					
	7.5	35	25FA7S4-PE	93822540					
10	44	25FA10S4-PE	93822545						

Notes: Discharge is 1-1/4" NPT. Maximum diameter across cable guard is 3.90" on all models.

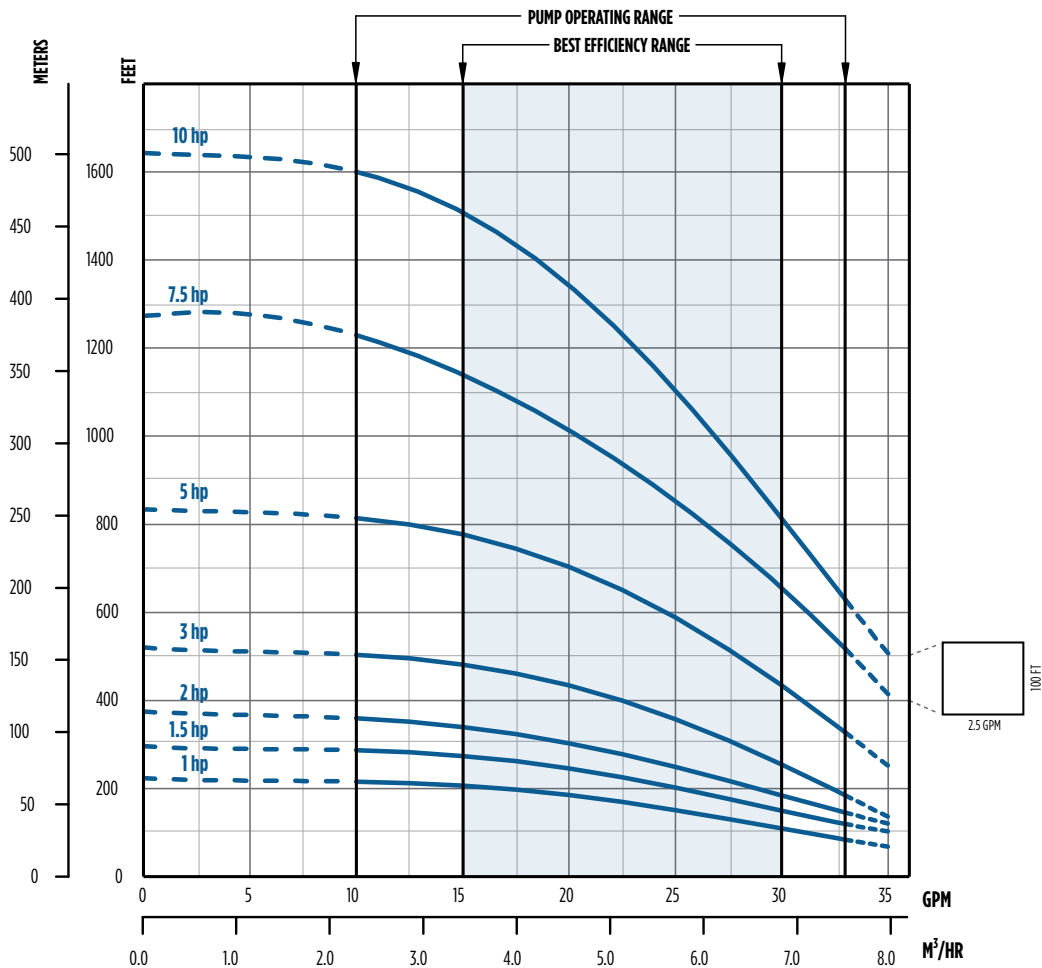
### CAPACITIES IN U.S. GALLONS PER MINUTE

HP	PSI	Depth to Pumping Water Level (Lift) in Feet. Shaded Areas Indicate Most Efficient Performance																							
		20	40	60	80	100	120	140	160	180	200	240	260	300	360	400	440	480	500	600	700		800	900	1000
1	0																								Shut-off 222 ft.
	20																								
	30	32	29	27	25	22	19																		
	40	29	27	25	22	19																			
	50	26	24	21	16																				
	60	24	21	17																					
	Shut-off PSI	87	79	70	61	53	44	35	27	18	10														
1.5	0						33	31	29	27	25	21	19											Shut-off 297 ft.	
	20						30	28	26	24	22	19													
	30				32	30	28	26	24	22	19	16													
	40	33	32	29	27	25	23	21	19	15															
	50	32	29	27	25	23	21	18																	
	60	29	27	25	23	20	18																		
	80	24	22	20	17																				
Shut-off PSI	120	111	103	94	85	77	68	59	51	42	25	16													
2	0							33	32	30	28	25	24	20										Shut-off 375 ft.	
	20						31	29	28	26	25	21	20												
	30				34	33	31	29	28	26	24	23	19	17											
	40			34	33	31	29	28	26	24	23	21	17												
	50	33	32	30	29	27	26	24	22	20	18														
	60	32	30	28	27	26	24	22	20	18															
	80	28	26	25	23	21	20	17																	
Shut-off PSI	154	145	136	128	119	110	102	93	84	76	58	50	32												
3	0								33	32	30	29	28	24	22	19	15							Shut-off 539 ft.	
	20						33	32	31	30	28	27	25	22	19										
	30					33	32	31	30	29	27	26	24	20											
	40				33	32	31	30	29	28	26	25	22	18											
	50			33	32	31	31	30	29	28	27	24	23	21	15										
	60		33	32	31	31	30	29	28	26	25	23	22	19											
	80	52	31	30	29	28	27	26	25	24	23	20	19	15											
Shut-off PSI	216	207	199	190	181	173	164	155	147	138	121	112	95	69	52	34	17								

Notes: 1. Performance shown does not include friction loss in the drop pipe. 2. All performance data is based on rated motor nameplate voltage.

# 4" TRI-SEAL PUMPS - 25 GPM

## PERFORMANCE



HP	PSI	Depth to Pumping Water Level (Lift) in Feet. Shaded Areas Indicate Most Efficient Performance																						
		20	40	60	80	100	120	140	160	180	200	240	260	300	360	400	440	480	500	600	700	800	900	1000
5	0												33	32	31	30	28	28	24	20				
	20											33	32	30	30	28	27	26	22	17				
	30										33	33	31	30	28	27	26	25	21	15				
	40									33	32	32	31	29	28	27	25	24	20					
	50							33	33	32	31	30	28	27	25	24	23	19						
	60						33	33	32	31	31	30	28	26	25	23	22	18						
	80					33	33	31	31	30	29	28	26	25	23	21	20							
	Shut-off PSI	352	343	326	317	309	300	291	283	274	257	248	231	205	187	170	153	144	101	58				
	7.5	0												33	32	31	30	28	28	24	20			
20												33	32	30	30	28	27	26	22	17				
30											33	33	31	30	28	27	26	25	21	15				
40										33	32	32	31	29	28	27	25	24	20					
50								33	33	32	31	30	28	27	25	24	23	19						
60							33	33	32	31	31	30	28	26	25	23	22	18						
80						33	32	32	31	30	29	28	26	25	23	21	20							
Shut-off PSI		425	399	382	364	347	338	295	252	208	165	122	78	35										
10		0												33	32	30	29	27	25	23	21	19	15	10
	20											33	31	30	28	26	24	22	20	17	13			
	30											32	31	29	27	26	24	22	19	17	12			
	40										33	32	30	29	27	25	23	21	19	16	10			
	50							33	33	32	30	28	27	25	23	21	18	15						
	60						33	33	32	31	30	28	26	24	22	20	18	14						
	80					33	32	32	31	30	29	27	25	23	21	19	16	11						
	Shut-off PSI	581	555	538	520	503	494	451	408	365	321	278	235	191	148	105	61	18						

Notes: 1. Performance shown does not include friction loss in the drop pipe. 2. All performance data is based on rated motor nameplate voltage.

## 4" SERIES V PUMPS

The standard FPS Series Five submersible pump features unique hydraulics that improve efficiency and minimize wear even when pumping abrasives. Discharge and motor brackets are available in thermoplastic or stainless steel with a removable check valve system. Available in 5, 7, 10, 15, 20, and 25 gpm, 1/2 - 5 horsepower. For details on how to become a registered dealer and receive a 5-year warranty, contact your local distributor.

### FEATURES

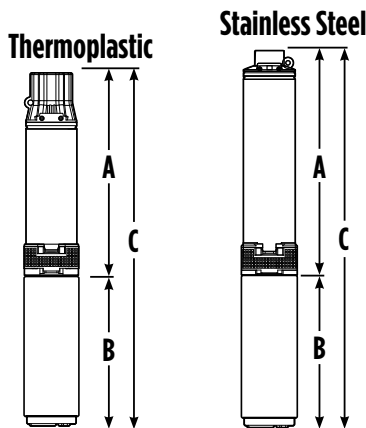
- 6 performance ranges: 5, 7, 10, 15, 20, and 25 gpm
- Horsepower ranges: 1/2 - 5
- Discharge head and motor bracket produced with industry proven, engineered materials. Available in 300 Series stainless steel or high quality thermoplastic resins.
- Large wrench flat area on the discharge head for ease of installation
- Dry run designed top bearing positively supports the 300 Series stainless steel 7/16" hex shaft
- Removable internal check valve
- Powered by Franklin Electric corrosion-resistant super stainless 4" submersible motors with lightning protection
- Maximum water temperature with proper flow is 120 °F/49 °C. Consult factory for details



UL 778  
 CSA 108  
 NSF/ANSI 372  
 NSF/ANSI 61 (Pump end only)

## 4" SERIES V PUMPS

### DIMENSIONS



Plastic with 2-Wire Motors							
GPM	HP	Stages	A	B	C	PE Wt.	PMA Wt.
5	1/2	8	14.12	9.51	23.63	8	26
	3/4	12	17.41	10.64	28.05	9	30
	1	15	19.87	11.73	31.60	10	34
	1.5	21	24.81	15.10	39.91	12	43

7	1/2	7	13.30	9.51	22.81	7	25
	3/4	10	15.76	10.64	26.40	8	29
	1	13	18.23	11.73	29.96	10	34
	1.5	18	22.34	15.10	37.44	11	42

10	1/2	6	12.97	9.51	22.48	7	25
	3/4	8	14.69	10.64	25.33	8	29
	1	11	17.44	11.73	29.17	9	33
	1.5	15	21.06	15.10	36.16	10	41

15	1/2	4	11.45	9.51	20.96	6	24
	3/4	6	12.97	10.64	23.61	7	28
	1	8	14.69	11.73	26.42	8	32
	1.5	11	17.44	15.10	32.54	9	40

20	3/4	5	13.65	10.64	24.29	6	28
	1	7	16.10	11.73	26.42	8	32
	1.5	10	19.77	15.10	34.87	8	39

25	1	6	14.88	11.73	26.61	7	31
	1.5	8	17.32	15.10	32.42	8	39

Plastic with 3-Wire Motors							
GPM	HP	Stages	A	B	C	PE Wt.	PMA Wt.
5	1/2	8	14.12	9.51	23.63	8	26
	3/4	12	17.41	10.64	28.05	9	30
	1	15	19.87	11.73	31.60	10	34
	1.5	21	24.81	13.60	38.41	12	40

7	1/2	7	13.30	9.51	22.81	7	26
	3/4	10	15.76	10.64	26.40	8	29
	1	13	18.23	11.73	29.96	10	34
	1.5	18	22.34	13.60	35.94	11	39

10	1/2	6	12.97	9.51	22.48	7	26
	3/4	8	14.69	10.64	25.33	8	29
	1	11	17.44	11.73	29.17	9	33
	1.5	15	21.06	13.60	34.66	10	38

15	1/2	4	11.45	9.51	20.96	6	25
	3/4	6	12.97	10.64	23.61	7	28
	1	8	14.69	11.73	26.42	8	32
	1.5	11	17.44	13.60	31.04	9	37

20	3/4	5	13.65	10.64	24.29	6	28
	1	7	16.10	11.73	27.83	7	31
	1.5	10	19.77	13.60	33.37	8	36

25	1	6	14.88	11.73	26.61	7	31
	1.5	8	17.32	15.10	30.92	8	36

Notes: All lengths are in inches, all weights are in pounds. Maximum diameter with cable guard is 3.90"  
PE - Pump end only / PMA - Pump and motor assembly

Stainless Steel with 2-Wire Motors							
GPM	HP	Stages	A	B	C	PE Wt.	PMA Wt.
5	1/2	8	13.57	9.51	23.08	10	28
	3/4	12	16.86	10.64	27.50	12	33
	1	15	19.33	11.73	31.06	14	38
	1.5	21	24.26	15.10	39.36	17	48
7	1/2	7	12.75	9.51	22.26	9	27
	3/4	10	15.22	10.64	25.86	11	32
	1	13	17.68	11.73	29.41	13	37
	1.5	18	21.80	15.10	36.90	15	46
10	1/2	6	12.39	9.51	21.90	7	25
	3/4	8	14.14	10.64	24.78	10	31
	1	11	16.85	11.73	28.58	11	35
	1.5	15	20.48	15.10	35.58	14	45
15	1/2	4	10.64	9.51	20.15	7	25
	3/4	6	12.39	10.64	23.03	9	30
	1	8	14.14	11.73	25.87	10	34
	1.5	11	16.85	15.10	31.95	11	42
20	3/4	5	13.10	10.64	23.74	8	29
	1	7	15.55	11.73	27.28	9	33
	1.5	10	19.22	15.10	34.32	11	42
25	1	6	14.33	11.73	26.06	9	33
	1.5	8	16.77	15.10	31.87	10	41

Stainless Steel with 3-Wire Motors							
GPM	HP	Stages	A	B	C	PE Wt.	PMA Wt.
5	1/2	8	13.57	9.51	23.08	10	29
	3/4	12	16.86	10.64	27.50	12	33
	1	15	19.33	11.73	31.06	14	38
	1.5	21	24.26	13.60	37.86	17	45
	2	26	30.46	15.10	45.56	20	N/A
7	1/2	7	12.75	9.51	22.26	9	28
	3/4	10	15.22	10.64	25.86	11	32
	1	13	17.68	11.73	29.41	13	37
	1.5	18	21.80	13.60	35.40	15	43
	2	24	26.73	15.10	41.83	19	N/A
3	32	35.39	19.04	54.43	23	N/A	

10	1/2	6	12.39	9.51	21.90	9	28
	3/4	8	14.14	10.64	24.78	10	31
	1	11	16.85	11.73	28.58	11	35
	1.5	15	20.48	13.60	34.08	14	42
	2	18	25.26	15.10	40.36	15	N/A
3	19	26.17	19.04	45.21	16	N/A	
5	31	37.00	29.19	66.19	23	N/A	

15	1/2	4	10.64	9.51	20.15	7	26
	3/4	6	12.39	10.64	23.03	9	30
	1	8	14.14	11.73	25.87	10	34
	1.5	11	16.85	13.60	30.45	11	39
	2	14	19.57	15.10	34.67	13	N/A
3	19	26.17	19.04	45.21	16	N/A	
5	31	37.00	29.19	66.19	23	N/A	

20	3/4	5	13.10	10.64	23.74	8	29
	1	7	15.55	11.73	27.28	9	33
	1.5	10	19.22	13.60	32.82	11	39
	2	12	21.66	15.10	36.76	12	N/A
	3	16	26.55	19.04	45.59	14	N/A
	5	26	40.86	29.19	70.05	20	N/A
7.5	39	60.77	29.60	90.37	27	N/A	
10	52	76.66	32.60	109.26	35	N/A	

25	1	6	14.33	11.73	26.06	9	33
	1.5	8	16.77	13.60	30.37	10	38
	2	10	19.22	15.10	34.32	11	N/A
	3	14	24.11	19.04	43.15	13	N/A
	5	23	37.19	28.19	66.38	18	N/A
	7.5	35	55.88	29.60	85.48	25	N/A
10	44	66.88	32.60	99.48	30	N/A	



## 4" SERIES V PUMPS - 5 GPM

### PLASTIC ORDERING INFORMATION

GPM	HP	Stg.	Volts	2-Wire			3-Wire			
				Model	Order	Motor	Model	Order	Motor	Control Box
5	1/2	8	115	5FV05P4-2W115	95400505	2445049004S	5FV05P4-3W115	95400530	2145049004S	2801044915
	1/2	8	230	5FV05P4-2W230	95400510	2445059004S	5FV05P4-3W230	95400535	2145059004S	2801054915
	3/4	12	230	5FV07P4-2W230	95400515	2445079004S	5FV07P4-3W230	95400540	2145079004S	2801074915
	1	15	230	5FV1P4-2W230	95400520	2445089003S	5FV1P4-3W230	95400545	2145089003S	2801084915
	1.5	21	230	5FV15P4-2W230	95400525	2443099004S	5FV15P4-3W230	95400550	2243009203S	2823008110

### STAINLESS STEEL ORDERING INFORMATION

GPM	HP	Stg.	Volts	2-Wire			3-Wire			
				Model	Order	Motor	Model	Order	Motor	Control Box
5	1/2	8	115	5FV05S4-2W115	95420505	2445049004S	5FV05S4-3W115	95420530	2145049004S	2801044915
	1/2	8	230	5FV05S4-2W230	95420510	2445059004S	5FV05S4-3W230	95420535	2145059004S	2801054915
	3/4	12	230	5FV07S4-2W230	95420515	2445079004S	5FV07S4-3W230	95420540	2145079004S	2801074915
	1	15	230	5FV1S4-2W230	95420520	2445089003S	5FV1S4-3W230	95420545	2145089003S	2801084915
	1.5	21	230	5FV15S4-2W230	95420525	2443099004S	5FV15S4-3W230	95420550	2243009203S	2823008110

### PUMP END ONLY ORDERING INFORMATION

Stainless Steel - Pump End Only					Plastic - Pump End Only				
GPM	HP	Stg.	Model	Order	GPM	HP	Stg.	Model	Order
5	1/2	8	5FV05S4-PE	95430500	5	1/2	8	5FV05P4-PE	95410500
	3/4	12	5FV07S4-PE	95430501		3/4	12	5FV07P4-PE	95410501
	1	15	5FV1S4-PE	95430502		1	15	5FV1P4-PE	95410502
	1.5	21	5FV15S4-PE	95430503		1.5	21	5FV15P4-PE	95410503
	2	26	5FV2S4-PE	95430504					

Notes: Discharge is 1-1/4" NPT. Maximum diameter across cable guard is 3.90" on all models.

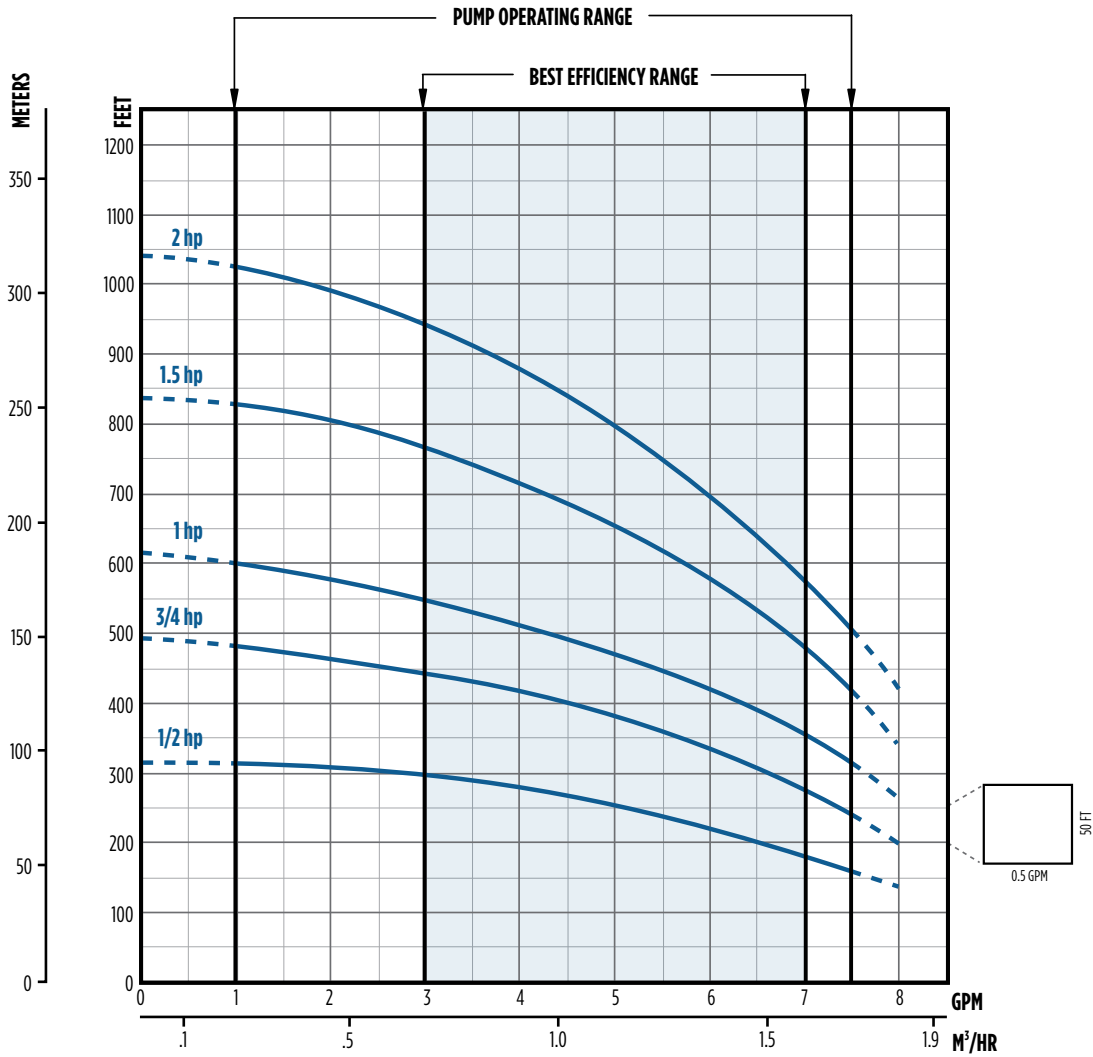
### CAPACITIES IN U.S. GALLONS PER MINUTE

HP	PSI	Depth to Pumping Water Level (Lift) in Feet. Shaded Areas Indicate Most Efficient Performance																						
		20	40	60	80	100	120	140	160	180	200	240	260	300	360	400	440	480	500	600	700	800	900	1000
1/2	0																							
	20					8	7	6	6	5	4													
	30				7	7	6	6	5	4	2													
	40			7	7	6	6	5	4	3														
	50		7	6	6	5	5	4	2															
	60	7	7	6	6	5	4	2																
	80	6	6	5	4	3																		
Shut-off PSI		127	119	110	101	93	84	75	67	58	49	32	23											
3/4	0										7	7	7	6	5	4	3							
	20									7	7	7	6	6	5	4	3							
	30									7	7	6	6	6	5	3								
	40									7	7	6	6	6	5	4	2							
	50						7	7	7	6	6	6	5	5	4									
	60						7	7	7	6	6	6	5	5	4	3								
	80		7	7	7	6	6	6	5	5	4	3	3											
Shut-off PSI		205	196	188	179	171	162	153	145	136	127	110	101	84	58	41	23							
1	0												8	7	6	5	4	4						
	20												7	7	7	6	5	4	3					
	30												7	7	7	6	5	3	2					
	40												7	7	7	6	5	4	3					
	50												7	7	7	6	6	4	3					
	60												7	7	7	6	6	5	4					
	80												7	7	6	5	5	4						
Shut-off PSI		257	248	240	231	222	214	205	197	188	179	162	153	136	110	93	75	58	49					

Notes: 1. Performance shown does not include friction loss in the drop pipe. 2. All performance data is based on rated motor nameplate voltage.

# 4" SERIES V PUMPS - 5 GPM

## PERFORMANCE



HP	PSI	Depth to Pumping Water Level (Lift) in Feet. Shaded Areas Indicate Most Efficient Performance																						
		20	40	60	80	100	120	140	160	180	200	240	260	300	360	400	440	480	500	600	700	800	900	1000
1.5	0														7	7	7	6	6	6	5	4	2	
	20												7	7	7	6	6	6	6	5	3			
	30												7	7	7	6	6	6	6	4	3			
	40											7	7	7	6	6	6	6	5	4	2			
	50											7	7	7	7	6	6	5	5	3				
	60											7	7	7	6	6	5	5	5	3				
2	0																7	7	7	6	5	4	3	
	20																7	7	7	6	5	4	2	
	30																7	7	7	6	5	3		
	40																7	7	7	6	5	3		
	50																7	7	7	6	5	4	3	
	60																7	7	7	6	5	4	3	
Shut-off PSI		352	344	335	326	318	309	300	292	283	274	257	249	231	205	188	171	153	145	101	58	15		
Shut-off PSI		441	432	424	415	406	398	389	381	372	363	346	337	320	294	277	259	242	233	190	147	104	60	

Notes: 1. Performance shown does not include friction loss in the drop pipe. 2. All performance data is based on rated motor nameplate voltage.

## 4" SERIES V PUMPS - 7 GPM

### PLASTIC ORDERING INFORMATION

GPM	HP	Stg.	Volts	2-Wire			3-Wire			
				Model	Order	Motor	Model	Order	Motor	Control Box
7	1/2	7	115	7FV05P4-2W115	95400705	2445049004S	7FV05P4-3W115	95400730	2145049004S	2801044915
	1/2	7	230	7FV05P4-2W230	95400710	2445059004S	7FV05P4-3W230	95400735	2145059004S	2801054915
	3/4	10	230	7FV07P4-2W230	95400715	2445079004S	7FV07P4-3W230	95400740	2145079004S	2801074915
	1	13	230	7FV1P4-2W230	95400720	2445089003S	7FV1P4-3W230	95400745	2145089003S	2801084915
	1.5	18	230	7FV15P4-2W230	95400725	2443099004S	7FV15P4-3W230	95400750	2243009203S	2823008110

### STAINLESS STEEL ORDERING INFORMATION

GPM	HP	Stg.	Volts	2-Wire			3-Wire			
				Model	Order	Motor	Model	Order	Motor	Control Box
7	1/2	7	115	7FV05S4-2W115	95420705	2445049004S	7FV05S4-3W115	95420730	2145049004S	2801044915
	1/2	7	230	7FV05S4-2W230	95420710	2445059004S	7FV05S4-3W230	95420735	2145059004S	2801054915
	3/4	10	230	7FV07S4-2W230	95420715	2445079004S	7FV07S4-3W230	95420740	2145079004S	2801074915
	1	13	230	7FV1S4-2W230	95420720	2445089003S	7FV1S4-3W230	95420745	2145089003S	2801084915
	1.5	18	230	7FV15S4-2W230	95420725	2443099004S	7FV15S4-3W230	95420750	2243009203S	2823008110

### PUMP END ONLY ORDERING INFORMATION

Stainless Steel - Pump End Only					Plastic - Pump End Only				
GPM	HP	Stg.	Model	Order	GPM	HP	Stg.	Model	Order
7	1/2	7	7FV05S4-PE	95430700	7	1/2	7	7FV05P4-PE	95410700
	3/4	10	7FV07S4-PE	95430701		3/4	10	7FV07P4-PE	95410701
	1	13	7FV1S4-PE	95430702		1	13	7FV1P4-PE	95410702
	1.5	18	7FV15S4-PE	95430703		1.5	18	7FV15P4-PE	95410703
	2	24	7FV2S4-PE	95430704					
	3	32	7FV3S4-PE	95430705					

Notes: Discharge is 1-1/4" NPT. Maximum diameter across cable guard is 3.90" on all models.

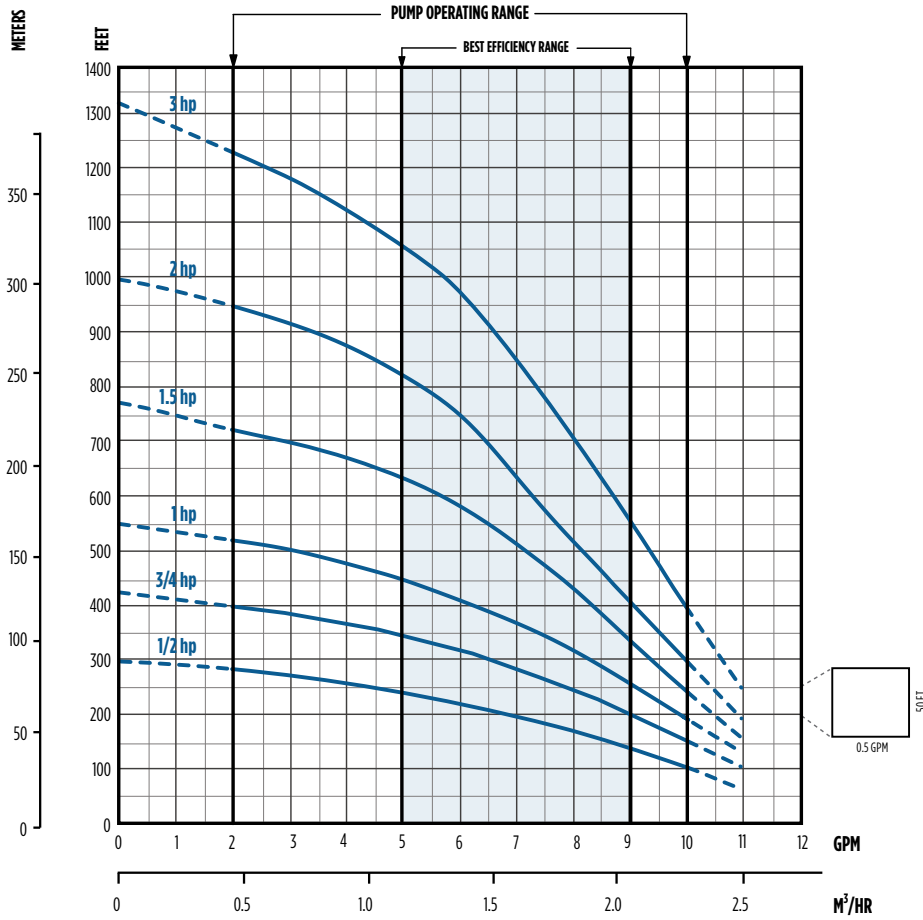
### CAPACITIES IN U.S. GALLONS PER MINUTE

HP	PSI	Depth To Pumping Water Level (Lift) in Feet. Shaded Areas Indicate Most Efficient Performance																								
		20	40	60	80	100	120	140	160	180	200	240	260	300	360	400	440	480	500	600		700	800	900	1000	
1.5	0																									Shut-off 765 ft.
	20																									
	30																									
	40																									
	50																									
	60																									
	80																									
	Shut-off PSI	322	313	305	296	287	279	270	261	253	244	227	218	201	175	158	140	123	114	71	28					
	2	0																								
20																										
30																										
40																										
50																										
60																										
80																										
Shut-off PSI		421	412	404	395	386	378	369	360	352	343	326	317	300	274	257	239	222	213	170	127	84	40			
1		0																								
	20																									
	30																									
	40																									
	50																									
	60																									
	80																									
	Shut-off PSI	226	218	209	200	192	183	174	166	157	148	131	123	105	79	62	45	27	18							

Notes: 1. Performance shown does not include friction loss in the drop pipe. 2. All performance data is based on rated motor nameplate voltage.

# 4" SERIES V PUMPS - 7 GPM

## PERFORMANCE



HP	PSI	Depth To Pumping Water Level (Lift) in Feet. Shaded Areas Indicate Most Efficient Performance																						
		20	40	60	80	100	120	140	160	180	200	240	260	300	360	400	440	480	500	600	700	800	900	1000
1.5	0																							
	20						10	10	10	10	10	9	9	9	8	8	7	7	7	6	5	2		
	30				10	10	10	10	10	9	9	9	9	8	8	7	7	6	6	6	3			
	40			10	10	10	10	10	9	9	9	9	8	8	7	7	6	6	5	3				
	50		10	10	10	10	10	9	9	9	9	8	8	8	7	6	6	5	5					
	60	10	10	10	10	9	9	9	9	9	8	8	8	7	7	6	5	4						
	80	10	10	9	9	9	9	8	8	8	8	7	7	6	5	4	3							
Shut-off PSI		322	313	305	296	287	279	270	261	253	244	227	218	201	175	158	140	123	114	71	28			
2	0																							
	20						10	10	10	10	10	10	9	9	9	8	8	8	7	6	5	3		
	30						10	10	10	10	10	10	9	9	9	8	8	8	7	6	5	4		
	40					10	10	10	10	10	9	9	9	9	8	8	7	7	7	6	5	3		
	50				10	10	10	10	10	9	9	9	9	8	8	8	7	7	7	6	5	3		
	60		10	10	10	10	10	10	9	9	9	9	9	8	8	7	7	7	6	5	4			
	80	10	10	10	10	10	9	9	9	9	9	8	8	7	7	6	5	3						
Shut-off PSI		421	412	404	395	386	378	369	360	352	343	326	317	300	274	257	239	222	213	170	127	84	40	
3	0																							
	20		10	9	9	8	8	7	6	6	5	3												
	30		10	9	9	8	8	7	6	6	4	3												
	40		10	9	9	8	8	7	6	6	5	4												
	50		10	9	9	8	8	7	7	6	5	4												
	60	10	10	9	8	8	7	7	6	5	3													
	80	10	9	8	8	7	7	6	5	4	2													
Shut-off PSI		523	480	437	394	350	307	264	221	177	134	91	48											

Notes: 1. Performance shown does not include friction loss in the drop pipe. 2. All performance data is based on rated motor nameplate voltage.

## 4" SERIES V PUMPS - 10 GPM

### PLASTIC ORDERING INFORMATION

GPM	HP	Stg.	Volts	2-Wire			3-Wire			
				Model	Order	Motor	Model	Order	Motor	Control Box
10	1/2	6	115	10FV05P4-2W115	95401005	2445049004S	10FV05P4-3W115	95401030	2145049004S	2801044915
	1/2	6	230	10FV05P4-2W230	95401010	2445059004S	10FV05P4-3W230	95401035	2145059004S	2801054915
	3/4	8	230	10FV07P4-2W230	95401015	2445079004S	10FV07P4-3W230	95401040	2145079004S	2801074915
	1	11	230	10FVIP4-2W230	95401020	2445089003S	10FVIP4-3W230	95401045	2145089003S	2801084915
	1.5	15	230	10FV15P4-2W230	95401025	2443099004S	10FV15P4-3W230	95401050	2243009203S	2823008110

### STAINLESS STEEL ORDERING INFORMATION

GPM	HP	Stg.	Volts	2-Wire			3-Wire			
				Model	Order	Motor	Model	Order	Motor	Control Box
10	1/2	6	115	10FV05S4-2W115	95421005	2445049004S	10FV05S4-3W115	95421030	2145049004S	2801044915
	1/2	6	230	10FV05S4-2W230	95421010	2445059004S	10FV05S4-3W230	95421035	2145059004S	2801054915
	3/4	8	230	10FV07S4-2W230	95421015	2445079004S	10FV07S4-3W230	95421040	2145079004S	2801074915
	1	11	230	10FVIS4-2W230	95421020	2445089003S	10FVIS4-3W230	95421045	2145089003S	2801084915
	1.5	15	230	10FVIS4-2W230	95421025	2443099004S	10FVIS4-3W230	95421050	2243009203S	2823008110

### PUMP END ONLY ORDERING INFORMATION

Stainless Steel - Pump End Only					Plastic - Pump End Only				
GPM	HP	Stg.	Model	Order	GPM	HP	Stg.	Model	Order
10	1/2	6	10FV05S4-PE	95431000	10	1/2	6	10FV05P4-PE	95411000
	3/4	8	10FV07S4-PE	95431001		3/4	8	10FV07P4-PE	95411001
	1	11	10FVIS4-PE	95431002		1	11	10FVIP4-PE	95411002
	1.5	15	10FV15S4-PE	95431003		1.5	15	10FV15P4-PE	95411003
	2	18	10FV2S4-PE	95431004					
	3	24	10FV3S4-PE	95431005					
	5	39	10FV5S4-PE	95431006					

Notes: Discharge is 1-1/4" NPT. Maximum diameter across cable guard is 3.90" on all models.

### CAPACITIES IN U.S. GALLONS PER MINUTE

HP	PSI	Depth to Pumping Water Level (Lift) in Feet. Shaded Areas Indicate Most Efficient Performance																							
		20	40	60	80	100	120	140	160	180	200	240	260	300	360	400	440	480	500		700	800	900	1000	
1/2	0				14	13	12	11	10	9	7														Shut-off 244 ft.
	20	14	13	13	12	11	10	8	6	3															
	30	13	13	12	11	10	8	6	3																
	40	13	12	11	10	8	6	3																	
	50	12	11	9	8	5	3																		
	60	11	10	7	4																				
	80	8	6	4																					
	Shut-off PSI	97	88	80	71	62	54	45	36	28	19														
3/4	0					14	13	13	12	11	10	7	8	4										Shut-off 338 ft.	
	20		14	14	13	12	12	11	10	9	8	6	4												
	30	14	14	13	12	12	11	10	9	8	7	3													
	40	14	13	12	12	11	10	9	8	7	6														
	50	13	12	11	11	10	9	8	7	5	3														
	60	12	11	11	10	9	8	6	5																
	80	11	10	9	8	6	5																		
	Shut-off PSI	137	129	120	111	103	94	85	77	68	59	42	34	16											
1	0					14	13	13	12	11	10	9	7	4										Shut-off 444 ft.	
	20					14	13	13	12	11	11	9	9	7	3										
	30					14	13	13	12	11	11	10	9	8	6										
	40				14	13	13	12	11	11	10	9	8	7	5										
	50		14	13	13	12	11	11	10	9	8	7	6												
	60	13	12	12	11	11	10	10	9	8	8	5	4												
	80	12	12	11	10	10	9	8	7	6	5														
	Shut-off PSI	183	174	157	148	140	131	123	114	105	97	79	71	53	27	10									
1.5	0							14	13	13	13	12	12	10	9	9	8	7						Shut-off 615 ft.	
	20							14	13	13	12	12	11	11	9	8	7	6	5						
	30							14	13	13	12	12	11	11	10	8	8	6	5	4					
	40					14	13	13	12	12	12	11	10	10	8	7	6	4							
	50				14	13	13	12	12	12	11	10	10	9	8	6	5	3							
	60		14	13	13	13	12	12	11	11	11	10	9	9	7	6	4								
	80	13	13	13	12	12	11	11	11	10	10	9	9	8	6	3									
	Shut-off PSI	257	248	240	231	222	214	205	197	188	179	162	153	136	110	93	75	41	32						

Notes: 1. Performance shown does not include friction loss in the drop pipe. 2. All performance data is based on rated motor nameplate voltage.





## 4" SERIES V PUMPS - 15 GPM

### PLASTIC ORDERING INFORMATION

GPM	HP	Stg.	Volts	2-Wire			3-Wire			
				Model	Order	Motor	Model	Order	Motor	Control Box
15	1/2	4	115	15FV05P4-2W115	95401505	2445049004S	15FV05P4-3W115	95401530	2145049004S	2801044915
	1/2	4	230	15FV05P4-2W230	95401510	2445059004S	15FV05P4-3W230	95401535	2145059004S	2801054915
	3/4	6	230	15FV07P4-2W230	95401515	2445079004S	15FV07P4-3W230	95401540	2145079004S	2801074915
	1	8	230	15FVIP4-2W230	95401520	2445089003S	15FVIP4-3W230	95401545	2145089003S	2801084915
	1.5	11	230	15FV15P4-2W230	95401525	2443099004S	15FV15P4-3W230	95401550	2243009203S	2823008110

### STAINLESS STEEL ORDERING INFORMATION

GPM	HP	Stg.	Volts	2-Wire			3-Wire			
				Model	Order	Motor	Model	Order	Motor	Control Box
15	1/2	4	115	15FV05S4-2W115	95421505	2445049004S	15FV05S4-3W115	95421530	2145049004S	2801044915
	1/2	4	230	15FV05S4-2W230	95421510	2445059004S	15FV05S4-3W230	95421535	2145059004S	2801054915
	3/4	6	230	15FV07S4-2W230	95421515	2445079004S	15FV07S4-3W230	95421540	2145079004S	2801074915
	1	8	230	15FVIS4-2W230	95421520	2445089003S	15FVIS4-3W230	95421545	2145089003S	2801084915
	1.5	11	230	15FVIS4-2W230	95421525	2443099004S	15FVIS4-3W230	95421550	2243009203S	2823008110

### PUMP END ONLY ORDERING INFORMATION

Stainless Steel - Pump End Only					Plastic - Pump End Only				
GPM	HP	Stg.	Model	Order	GPM	HP	Stg.	Model	Order
15	1/2	4	15FV05S4-PE	95431500	15	1/2	4	15FV05P4-PE	95411500
	3/4	6	15FV07S4-PE	95431501		3/4	6	15FV07P4-PE	95411501
	1	8	15FVIS4-PE	95431502		1	8	15FVIP4-PE	95411502
	1.5	11	15FV15S4-PE	95431503		1.5	11	15FV15P4-PE	95411503
	2	14	15FV2S4-PE	95431504					
	3	19	15FV3S4-PE	95431505					
	5	31	15FV5S4-PE	95431506					

Notes: Discharge is 1-1/4" NPT. Maximum diameter across cable guard is 3.90" on all models.

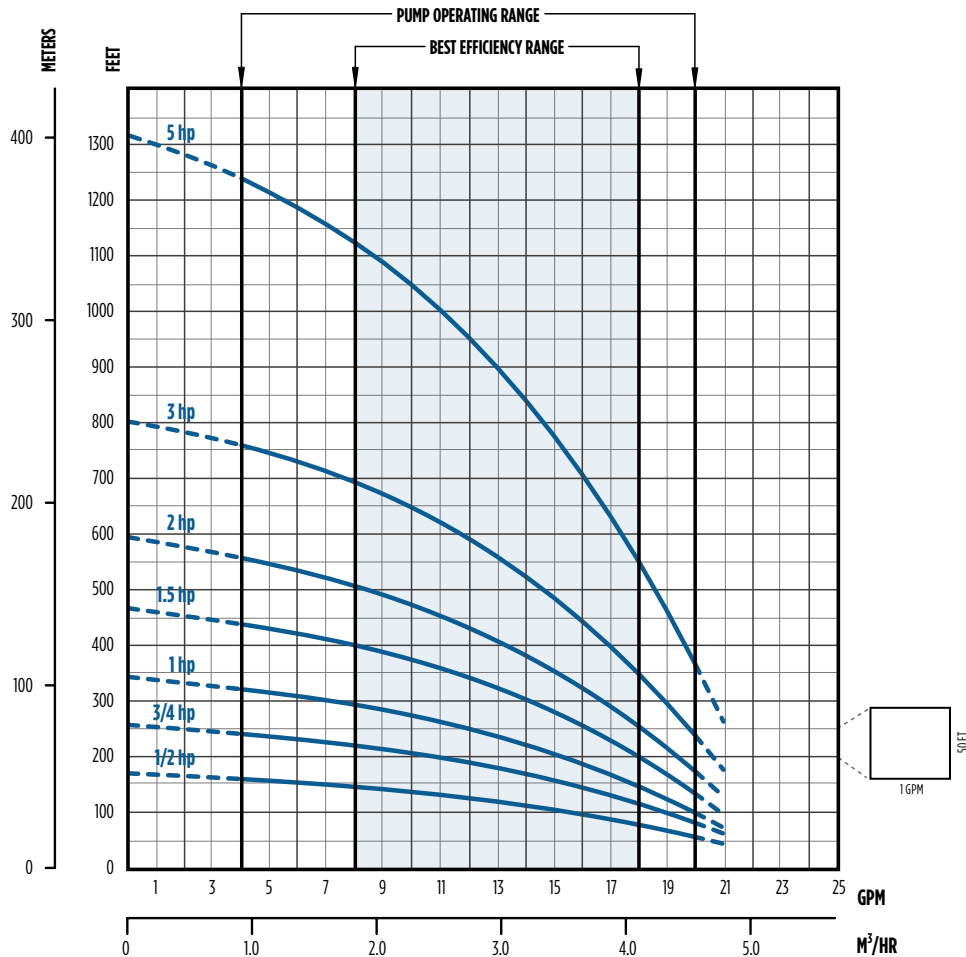
### CAPACITIES IN U.S. GALLONS PER MINUTE

HP	PSI	Depth to Pumping Water Level (Lift) in Feet. Shaded Areas Indicate Most Efficient Performance																									
		20	40	60	80	100	120	140	160	180	200	240	260	300	360	400	440	480	500	600	700	800	900	1000	1100	1200	
1/2	0																										
	20	19	17	15	12	8																					
	30	17	14	11	7																						
	40	14	11	6																							
	50	10	5																								
	60	4																									
	80																										
Shut-off PSI		65	56	48	39	30	22	13	4																		
3/4	0																										
	20		20	19	17	16	14	12	10	7																	
	30	20	18	17	16	14	12	10	6																		
	40	18	17	15	14	12	9	6																			
	50	17	15	13	11	9	5																				
	60	15	13	11	8	4																					
	80	10	7																								
Shut-off PSI		103	94	85	77	68	59	51	42	33	25																
1	0																										
	20				20	19	18	17	16	15	14	12	9	6													
	30	20	20	19	18	17	16	15	14	12	10	6															
	40	19	19	18	17	16	15	13	12	10	8																
	50	18	18	17	16	14	13	12	10	8	5																
	60	17	16	15	14	13	11	10	7	4																	
	80	15	14	12	11	9	6																				
Shut-off PSI		140	131	123	114	105	97	88	79	71	62	45	36	19													
1.5	0																										
	20				20	20	19	18	18	17	16	15	14	12	7												
	30				20	20	19	18	18	17	16	15	14	13	10	5											
	40			20	19	19	18	18	17	16	15	15	13	11	9												
	50	20	19	19	18	17	17	16	15	14	13	11	10	7													
	60	19	19	18	17	17	16	15	14	13	12	10	8	4													
	80	18	17	16	16	15	14	13	12	11	9	6															
Shut-off PSI		193	185	176	167	159	150	141	133	124	115	98	89	72	46	29	11										

Notes: 1. Performance shown does not include friction loss in the drop pipe. 2. All performance data is based on rated motor nameplate voltage.

# 4" SERIES V PUMPS - 15 GPM

## PERFORMANCE



HP	PSI	Depth to Pumping Water Level (Lift) in Feet. Shaded Areas Indicate Most Efficient Performance																Shut-off PSI									
		20	40	60	80	100	120	140	160	180	200	240	260	300	360	400	440		480	500	600	700	800	900	1000	1100	1200
2	0																										
	20											14	13	13	12	11	10	9	8	6							
	30											13	13	12	11	10	9	8	5								
	40									14		13	13	12	11	10	9	8	7	3							
	50								14	13		13	12	11	10	9	8	7	6								
	60					14		13	13	12	11	11	10	9	8	7	6	5									
	80				14	13		13	12	12	11	11	10	9	8	6	4	4									
Shut-off PSI		324	316	307	298	290	281	272	264	255	246	229	220	203	177	160	143	125	117	73							
3	0																										
	20										20	20	19	18	17	16	15	14	13	10	8						
	30										20	20	19	18	17	16	15	14	13	9							
	40										20	20	19	18	17	16	15	14	13	12	8						
	50										20	20	19	18	17	16	15	14	13	12	11	7					
	60					20		20	19	19	18	17	17	16	15	14	12	11	10	5							
	80	20	20	20	20	19	19	19	18	18	17	16	16	15	13	12	11	9	8								
Shut-off PSI		339	330	321	313	304	295	287	278	269	261	243	235	217	191	174	157	139	131	87	44						
5	0																										
	20														20	20	19	19	18	17	15	14	12	10	7	4	
	30														20	20	19	19	18	17	15	14	12	9	7		
	40														20	20	20	19	18	18	16	15	13	11	9	6	
	50														20	20	20	19	19	18	17	16	14	13	11	8	
	60														20	20	20	19	19	18	17	16	14	12	10	8	
	80										20	20	20	19	19	18	17	17	16	15	13	11	9	6			
Shut-off PSI		561	553	544	535	527	518	509	501	492	483	466	457	440	414	397	379	362	353	310	267	224	180	137	94		

Notes: 1. Performance shown does not include friction loss in the drop pipe. 2. All performance data is based on rated motor nameplate voltage.

## 4" SERIES V PUMPS - 20 GPM

### PLASTIC ORDERING INFORMATION

GPM	HP	Stg.	Volts	2-Wire			3-Wire			
				Model	Order	Motor	Model	Order	Motor	Control Box
20	3/4	5	230	20FV07P4-2W230	95402015	2445079004S	20FV07P4-3W230	95402040	2145079004S	2801074915
	1	7	230	20FVIP4-2W230	95402020	2445089003S	20FVIP4-3W230	95402045	2145089003S	2801084915
	1.5	10	230	20FV15P4-2W230	95402025	2443099004S	20FV15P4-3W230	95402050	2243009203S	2823008110

### STAINLESS STEEL ORDERING INFORMATION

GPM	HP	Stg.	Volts	2-Wire			3-Wire			
				Model	Order	Motor	Model	Order	Motor	Control Box
20	3/4	5	230	20FV07S4-2W230	95422015	2445079004S	20FV07S4-3W230	95422040	2145079004S	2801074915
	1	7	230	20FVIS4-2W230	95422020	2445089003S	20FVIS4-3W230	95422045	2145089003S	2801084915
	1.5	10	230	20FV15S4-2W230	95422025	2443099004S	20FV15S4-3W230	95422050	2243009203S	2823008110

### PUMP END ONLY ORDERING INFORMATION

Stainless Steel - Pump End Only					Plastic - Pump End Only				
GPM	HP	Stg.	Model	Order	GPM	HP	Stg.	Model	Order
20	3/4	5	20FV07S4-PE	95432001	20	3/4	5	20FV07P4-PE	95412001
	1	7	20FVIS4-PE	95432002		1	7	20FVIP4-PE	95412002
	1.5	10	20FV15S4-PE	95432003		1.5	10	20FV15P4-PE	95412003
	2	12	20FV2S4-PE	95432004					
	3	16	20FV3S4-PE	95432005					
	5	26	20FV5S4-PE	95432006					

Notes: Discharge is 1-1/4" NPT. Maximum diameter across cable guard is 3.90" on all models.

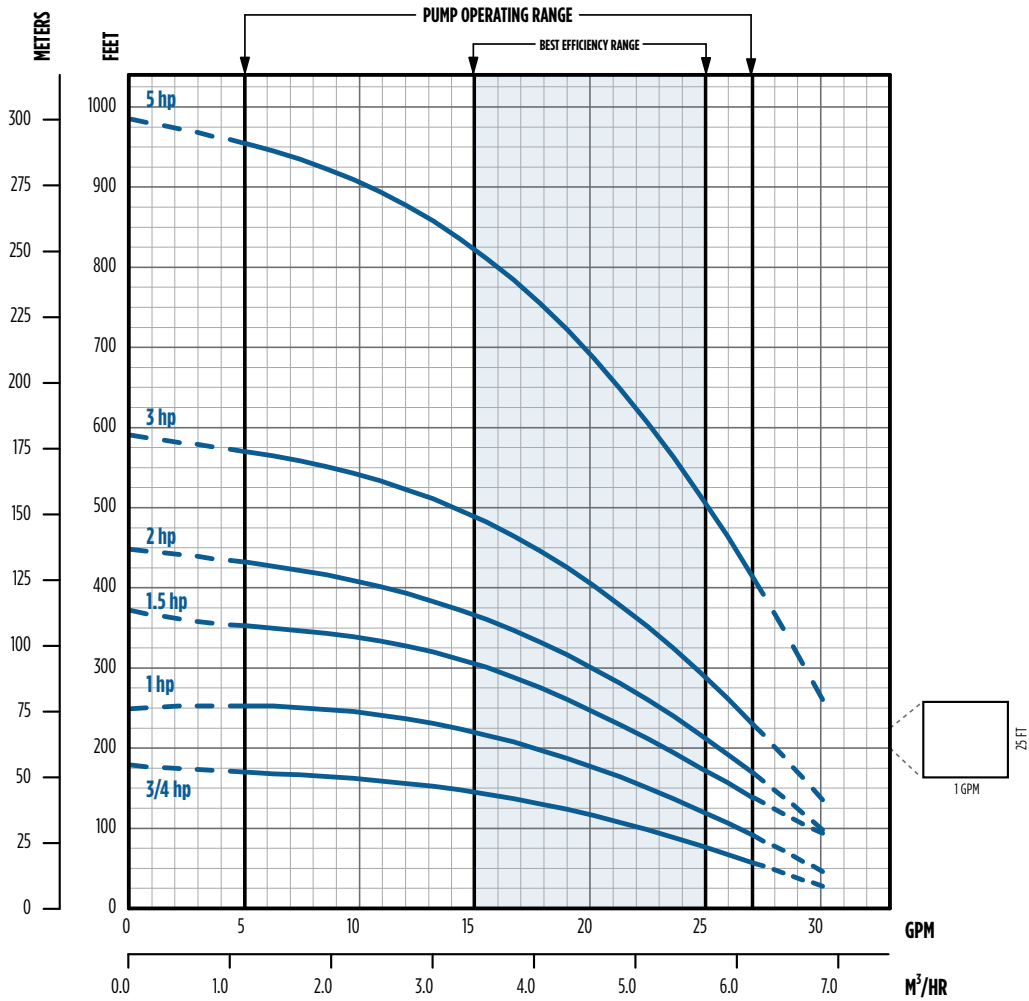
### CAPACITIES IN U.S. GALLONS PER MINUTE

HP	PSI	Depth to Pumping Water Level (Lift) in Feet. Shaded Areas Indicate Most Efficient Performance																						
		20	40	60	80	100	120	140	160	180	200	240	260	300	360	400	440	480	500	600	700	800	900	1000
3/4	0				24	22	21	18	14															
	20		23	21	19	17	12																	
	30	23	21	19	17	11																		
	40	21	19	17	10																			
	50	19	16	10																				
	60	14																						
Shut-off PSI		74	65	56	48	39	30	22	13															
1	0						26	25	23	20	18	11												
	20			27	26	24	22	20	18	15	8													
	30		27	26	24	22	19	17	14	7														
	40	27	25	23	21	19	17	13																
	50	25	23	21	19	16	12																	
	60	23	21	18	16	11																		
1.5	0							27	26	24	22	20	17	6										
	20						27	25	24	23	21	18	16	10										
	30					26	25	24	22	21	20	16	13											
	40				26	25	23	22	21	19	18	13	8											
	50		27	26	25	23	22	21	19	17	15	7												
	60	27	26	24	23	22	20	19	17	15	11													
1.5	0								27	26	24	22	20	17	6									
	20						27	25	24	23	21	18	16	10										
	30					26	25	24	22	21	20	16	13											
	40				26	25	23	22	21	19	18	13	8											
	50		27	26	25	23	22	21	19	17	15	7												
	60	27	26	24	23	22	20	19	17	15	11													
1.5	0									27	26	24	22	20	17	6								
	20						27	25	24	23	21	18	16	10										
	30					26	25	24	22	21	20	16	13											
	40				26	25	23	22	21	19	18	13	8											
	50		27	26	25	23	22	21	19	17	15	7												
	60	27	26	24	23	22	20	19	17	15	11													
1.5	0										27	26	24	22	20	17	6							
	20						27	25	24	23	21	18	16	10										
	30					26	25	24	22	21	20	16	13											
	40				26	25	23	22	21	19	18	13	8											
	50		27	26	25	23	22	21	19	17	15	7												
	60	27	26	24	23	22	20	19	17	15	11													
Shut-off PSI		156	147	138	130	121	112	104	95	86	78	60	52	34	8									

Notes: 1. Performance shown does not include friction loss in the drop pipe. 2. All performance data is based on rated motor nameplate voltage.

# 4" SERIES V PUMPS - 20 GPM

## PERFORMANCE



HP	PSI	Depth to Pumping Water Level (Lift) in Feet. Shaded Areas Indicate Most Efficient Performance																			Shut-off				
		20	40	60	80	100	120	140	160	180	200	240	260	300	360	400	440	480	500	600		700	800	900	1000
2	0										24	23	20	17	12										
	20									24	21	20	17	12											
	30								24	23	22	20	19	16											
	40						24	23	22	20	19	17	14												
	50					24	23	22	20	19	16	14	10												
	60				24	23	21	20	19	18	14	12													
	80	24	23	21	20	19	18	16	14																
Shut-off PSI	187	179	170	161	153	144	135	127	118	110	92	84	66	40	23										
3	0												24	22	20	18	16	14							
	20											24	23	20	17	15	12	10							
	30											24	23	21	18	16	13	10							
	40										24	23	22	20	17	14	11								
	50									24	24	22	21	19	16	13									
	60							24	24	23	21	20	18	14	10										
	80							24	23	22	20	18	17	15	10										
Shut-off PSI	251	242	234	225	216	208	199	190	182	173	156	147	130	104	87	69	52	43							
5	0																	24	23	20	16				
	20																	24	23	21	18	13			
	30																	24	23	20	17	11			
	40																	24	23	23	20	16	10		
	50																	24	22	22	17	15			
	60																	24	23	22	21	18	14		
	80																	24	22	21	20	16	10		
Shut-off PSI	416	408	399	390	382	373	364	356	347	339	321	313	295	269	252	235	217	209	165	122	79				

Notes: 1. Performance shown does not include friction loss in the drop pipe. 2. All performance data is based on rated motor nameplate voltage.

## 4" SERIES V PUMPS - 25 GPM

### PLASTIC ORDERING INFORMATION

GPM	HP	Stg.	Volts	2-Wire			3-Wire			
				Model	Order	Motor	Model	Order	Motor	Control Box
25	1	6	230	25FVIP4-2W230	95402520	2445089003S	25FVIP4-3W230	95402545	2145089003S	2801084915
	1.5	8	230	25FV15P4-2W230	95402525	2443099004S	25FV15P4-3W230	95402550	2243009203S	2823008110

### STAINLESS STEEL ORDERING INFORMATION

GPM	HP	Stg.	Volts	2-Wire			3-Wire			
				Model	Order	Motor	Model	Order	Motor	Control Box
25	1	6	230	25FVIS4-2W230	95422520	2445089003S	25FVIS4-3W230	95422545	2145089003S	2801084915
	1.5	8	230	25FVIS4-2W230	95422525	2443099004S	25FVIS4-3W230	95422550	2243009203S	2823008110

### PUMP END ONLY ORDERING INFORMATION

Stainless Steel - Pump End Only					Plastic - Pump End Only				
GPM	HP	Stg.	Model	Order	GPM	HP	Stg.	Model	Order
25	1	6	25FVIS4-PE	95432501	25	1	6	25FVIP4-PE	95412501
	1.5	8	25FVIS4-PE	95432502		25	1.5	8	25FVIP4-PE
	2	10	25FV2S4-PE	95432503					
	3	14	25FV3S4-PE	95432504					
	5	23	25FV5S4-PE	95432505					

Notes: Discharge is 1-1/4" NPT. Maximum diameter across cable guard is 3.90" on all models.

### CAPACITIES IN U.S. GALLONS PER MINUTE

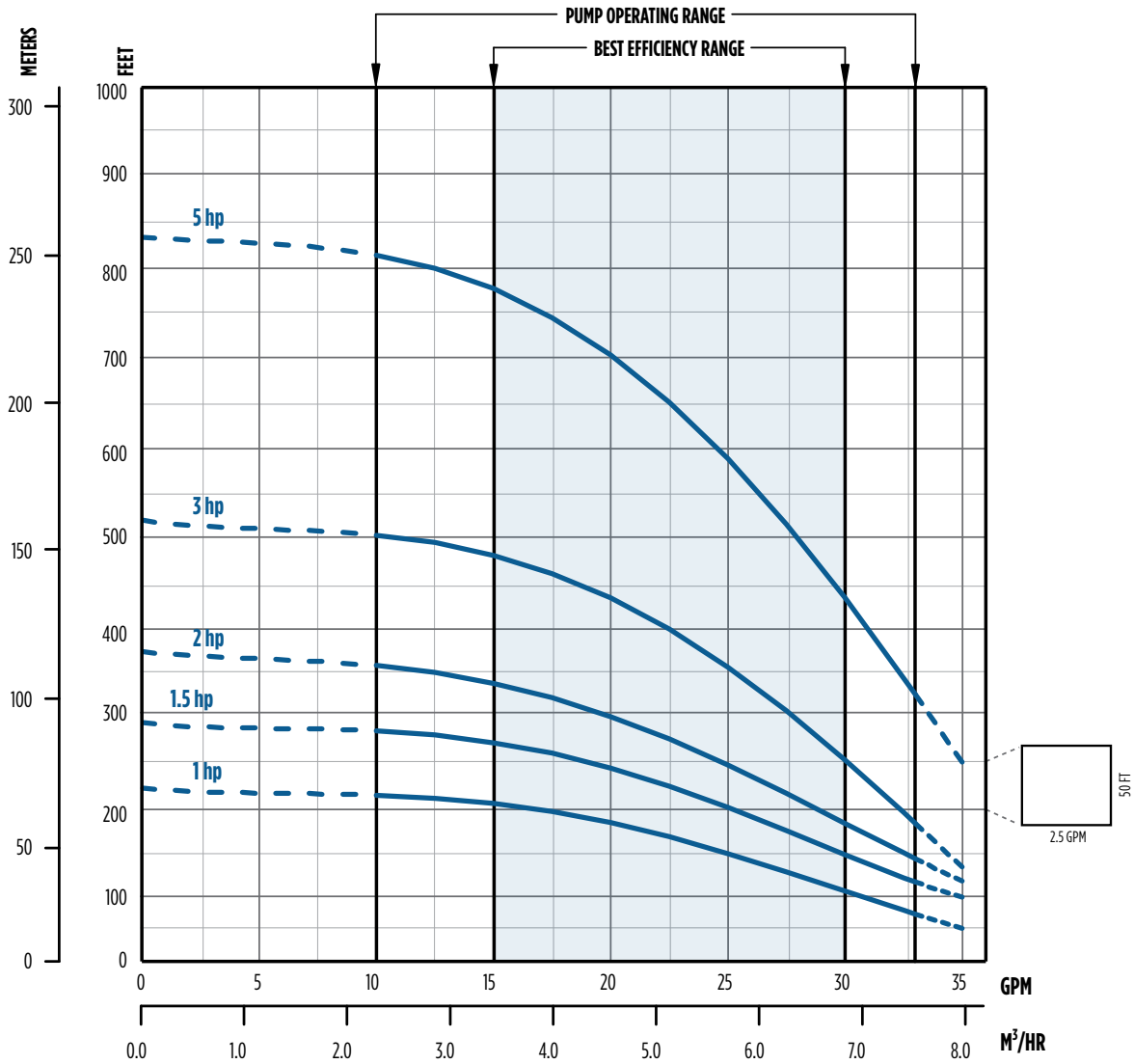
HP	PSI	Depth to Pumping Water Level (Lift) in Feet. Shaded Areas Indicate Most Efficient Performance																								
		20	40	60	80	100	120	140	160	180	200	240	260	300	360	400	440	480	500	600	700		800	900	1000	
1	0			35	33	31	28	26	24	21	17															Shut-off 222 ft.
	20		32	30	28	25	22	18	15																	
	30	32	29	27	25	22	19																			
	40	29	27	25	22	19																				
	50	26	24	21	16																					
	60	24	21	17																						
Shut-off PSI		87	79	70	61	53	44	35	27	18	10															
1.5	0					33	31	29	27	25	21	19													Shut-off 297 ft.	
	20				32	30	28	26	24	22	19															
	30			32	30	28	26	24	22	19	16															
	40	33	32	29	27	25	23	21	19	15																
	50	32	29	27	25	23	21	18																		
	60	29	27	25	23	20	18																			
Shut-off PSI		120	111	103	94	85	77	68	59	51	42	25	16													
2	0						33	32	30	28	25	24	20												Shut-off 375 ft.	
	20				34	33	31	29	28	26	25	21	20													
	30			34	33	31	29	28	26	24	23	19	17													
	40		34	33	31	29	28	26	24	23	21	17														
	50	33	32	30	29	27	26	24	22	20	18															
	60	32	30	28	27	26	24	22	20	18																
Shut-off PSI		154	145	136	128	119	110	102	93	84	76	58	50	32												

Notes: 1. Performance shown does not include friction loss in the drop pipe. 2. All performance data is based on rated motor nameplate voltage.



# 4" SERIES V PUMPS - 25 GPM

## PERFORMANCE



HP	PSI	Depth to Pumping Water Level (Lift) in Feet. Shaded Areas Indicate Most Efficient Performance																		Shut-off PSI				
		20	40	60	80	100	120	140	160	180	200	240	260	300	360	400	440	480	500		600	700	800	900
3	0																							
	20						33	32	32	31	30	28	27	25	22	19								
	30					33	32	32	31	30	29	27	26	24	20									
	40				33	32	32	31	30	29	28	26	25	22	18									
	50			33	32	31	31	30	29	28	27	24	23	21	15									
	60		33	32	31	31	30	29	28	26	25	23	22	19										
	80	32	31	30	29	28	27	26	25	24	23	20	19	15										
Shut-off PSI		216	207	199	190	181	173	164	155	147	138	121	112	95	69	52	34	17						
5	0																							
	20										33	32	30	30	28	27	26	22	17					
	30										33	33	31	30	28	27	26	25	21	15				
	40										33	32	31	29	28	27	25	24	20					
	50									33	33	32	31	30	28	27	25	24	23	19				
	60							33	33	32	31	31	30	28	26	25	23	22	18					
	80					33	33	32	31	31	30	29	28	26	25	23	21	20						
Shut-off PSI		352	343	326	317	309	300	291	283	274	257	248	231	205	187	170	153	144	101	58				

Notes: 1. Performance shown does not include friction loss in the drop pipe. 2. All performance data is based on rated motor nameplate voltage.

## 4" HIGH CAPACITY PUMPS

### FEATURES

- 4 performance ranges - 35, 45, 60, and 90 gpm
- Stainless steel discharge head and motor bracket
- High flow impellers and stages are glass-filled Modified PPO for maximum efficiency
- Ceramic shaft sleeve and rubber discharge bearing eliminates sand wear
- Intermediate bearing for increased shaft stability
- Floating eye and hub seals for improved performance and efficiency
- Stainless steel hex pump shaft, shell, and shaft coupling
- High capacity upthrust assembly for protection during start-up and operation (45, 60, and 90 gpm models)
- Powered by Franklin's corrosion-resistant 4" submersible motors
- 2" NPT discharge
- Check valve must be ordered separately



UL 778  
 CSA 108  
 NSF/ANSI 372  
 NSF/ANSI 61 (Pump end only)

## 4" HIGH CAPACITY PUMPS - ORDERING INFORMATION

### ORDERING INFORMATION

1 - 10 HP 4" Pump Ends						
GPM	HP	Stages	Ordering Info.		Dimensions (in)	Wt. (lbs)
			Model	Order	Pump End Only	
35	1	6	35FA1S4-PE	93613506	15.00	9
	1.5	8	35FA1SS4-PE	93613508	17.50	10
	2	10	35FA2S4-PE	93613510	20.00	11
	3	14	35FA3S4-PE	93613514	25.00	13
	5	22	35FA5S4-PE	93613522	35.00	17
	7.5	34	35FA7S4-PE	93613534	52.17	25
	10	42	35FA10S4-PE	93613542	62.23	31
45	1.5	6	45FA1SS4-PE	93614506	21.00	15
	2	8	45FA2S4-PE	93614508	25.50	16
	3	11	45FA3S4-PE	93614511	32.25	19
	5	18	45FA5S4-PE	93614518	47.75	25
	7.5	26	45FA7S4-PE	93614526	65.25	33
	10	31	45FA10S4-PE	93614531	78.30	38
60	2	6	60FA2S4-PE	93616006	21.00	15
	3	8	60FA3S4-PE	93616008	25.50	17
	5	13	60FA5S4-PE	93616013	36.75	21
	7.5	17	60FA7S4-PE	93616017	45.25	25
	10	24	60FA10S4-PE	93616024	61.00	31
90	2	5	90FA2S4-PE	93619005	22.56	15
	3	7	90FA3S4-PE	93619007	28.56	17
	5	12	90FA5S4-PE	93619012	43.56	21
	7.5	19	90FA7S4-PE	93619019	64.50	27
	10	24	90FA10S4-PE	93619020	79.25	31

**Notes:** Discharge is 2" NPT. Maximum diameter across cable guard is 3.90" on all models.

1 - 1.5 HP Single-Phase Units									
GPM	HP	Stages	Volts	2-Wire			3-Wire		
				Model	Order	Wt. (lbs)	Model	Order	Wt. (lbs)
35	1	6	230	35FA1S4-2W230	93613606	33	35FA1S4-3W230	93613706	33
	1.5	8	230	35FA1SS4-2W230	93613608	41	35FA1SS4-3W230	93613708	39
45	1.5	6	230	45FA1SS4-2W230	93614606	46	45FA1SS4-3W230	93614706	44

**Notes:** All listed above have 2" NPT discharge. Order check valve separately. Pump and motor will be individually cartoned and require assembly.

## 4" HIGH CAPACITY PUMPS - 35 GPM

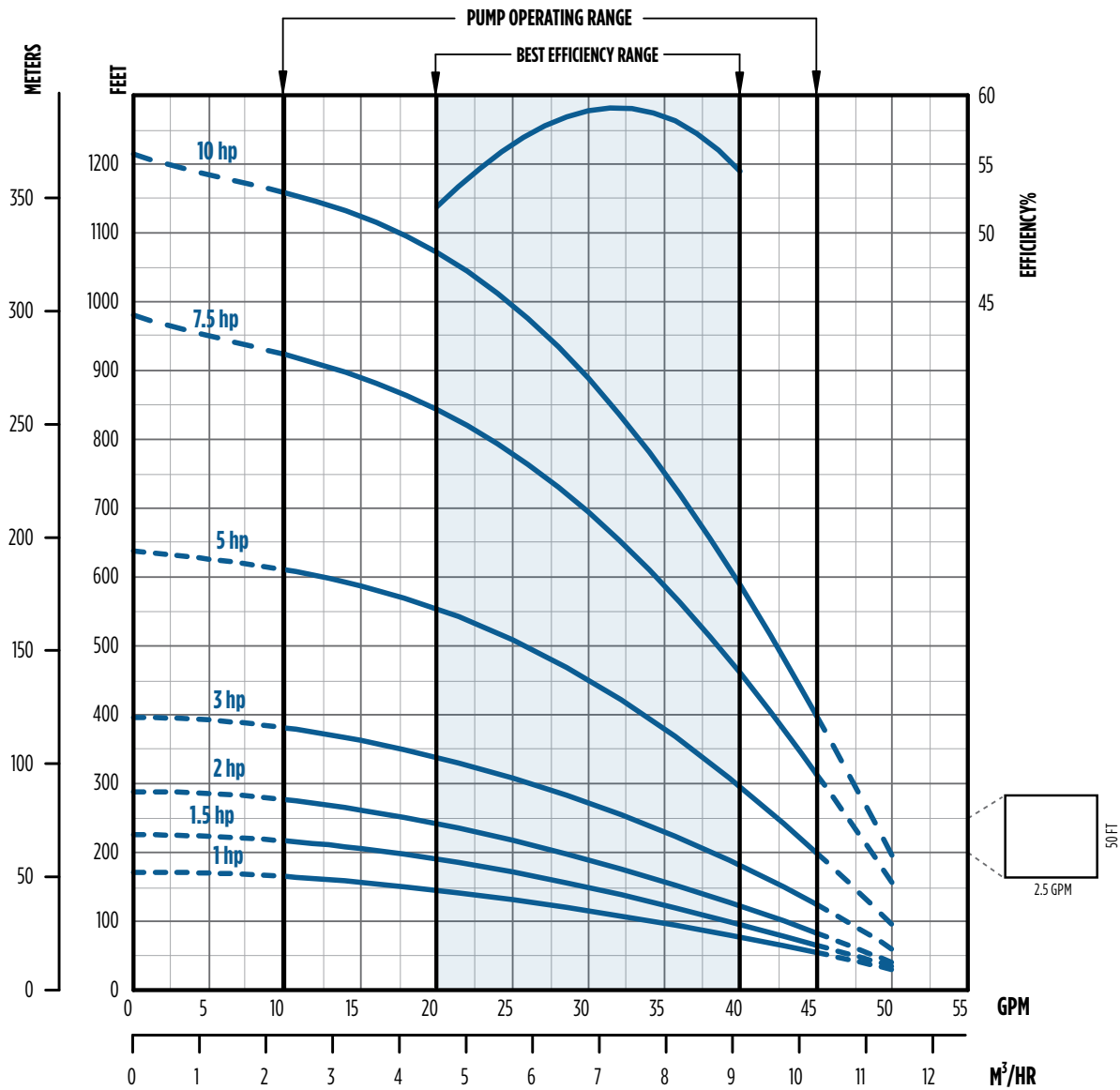
### CAPACITIES IN U.S. GALLONS PER MINUTE

HP	PSI	Depth to Pumping Water Level (Lift) in Feet. Shaded Areas Indicate Most Efficient Performance																			
		20	40	60	80	100	120	140	160	180	200	250	300	350	400	450	500	550	600		
1	0																				
	10		43	44	40	34	28	22	15												
	20	43	38	32	26	20															
	30	37	31	26	19																
	40	30	25	18																	
	50	24	16																		
	60	14																			
	70																				
	80																				
Shut-off PSI		65	57	48	39	31	22	13	5												
1.5	0			45	43	40	36	31	27	23	18										
	10		45	42	39	35	31	27	23	16											
	20	45	42	38	34	30	26	22	15												
	30	41	38	34	30	26	21	14													
	40	37	33	29	25	20	12														
	50	32	29	24	19	10															
	60	28	24	18																	
	70	23	17																		
	80	16																			
Shut-off PSI		89	81	72	63	55	46	37	29	20	11										
2	0			45	43	41	38	34	31	28	19										
	10			45	43	40	37	34	31	27	24	11									
	20		45	43	40	37	33	30	27	24	20										
	30	44	42	39	36	33	30	26	23	19	12										
	40	42	39	36	32	29	26	22	18	11											
	50	39	35	32	29	25	22	17	10												
	60	35	31	28	25	21	16														
	70	31	28	24	21	15															
	80	27	24	20	14																
Shut-off PSI		116	107	99	90	81	73	64	55	47	38	16									
3	0				45	44	42	41	38	32	28	18									
	10				45	44	42	40	38	35	33	27	19								
	20				45	44	42	40	38	35	33	27	19								
	30			45	43	42	40	37	35	32	30	24	13								
	40		44	43	41	39	37	34	32	29	27	20									
	50	44	43	41	39	37	34	32	29	27	24	14									
	60	43	41	39	36	34	31	29	26	24	21										
	70	40	38	36	33	31	28	26	23	20	15										
	80	38	35	33	30	28	25	23	19	15											
Shut-off PSI		163	154	145	137	128	120	111	102	94	85	63	42	20							
5	0									45	43	40	37	33	30	26	21	12			
	10									45	44	42	39	35	32	28	24	18			
	20								45	45	44	43	42	39	35	32	28	24	13		
	30							45	45	44	43	42	39	35	32	28	24	18			
	40					45	44	44	43	42	40	39	36	32	29	25	19	14			
	50				45	44	43	42	41	40	39	38	34	31	27	22	15				
	60			45	44	43	42	41	40	39	38	34	31	27	22	15					
	70		45	44	43	42	41	40	39	37	36	32	29	25	19						
	80	45	44	43	42	41	40	38	37	36	34	31	27	23	15						
Shut-off PSI		268	259	250	242	233	224	216	207	198	190	168	146	125	103	81	60	38	16		
7.5	0								44	42	40	38	36	34	32	30	27	24	19	13	
	10								45	43	41	39	38	36	33	31	29	26	22	17	
	20								44	42	40	39	37	35	32	30	27	24	20	14	
	30							45	43	41	40	38	36	34	31	29	26	22	17	11	
	40							44	42	41	39	37	35	33	30	27	24	20	14		
	50						45	43	42	40	38	36	34	32	29	25	22	18	11		
	60				45	44	43	41	39	37	35	33	30	28	24	20	15				
	70		45	45	44	43	42	40	38	36	34	32	29	26	23	18	12				
	80	45	45	44	43	43	41	39	37	35	33	31	28	25	21	15					
Shut-off PSI		373	364	355	347	338	316	295	274	251	230	208	186	165	143	121	100	78	56	35	
10	0					45	44	43	41	40	38	36	35	33	31	30	28	25	22	17	11
	10					45	43	42	41	39	37	36	34	32	31	29	26	24	20	15	
	20					45	44	43	41	40	38	37	35	33	32	30	28	25	22	18	12
	30					45	44	43	41	39	38	36	34	32	31	29	27	24	20	15	
	40				45	44	43	41	40	38	37	35	33	32	30	28	25	22	18	12	
	50			45	44	42	41	39	38	36	34	33	31	29	27	24	20	16			
	60			45	44	43	42	40	39	37	35	34	32	30	28	26	23	18	13		
	70		45	44	42	41	39	38	36	34	33	31	29	27	24	21	16				
	80	45	44	43	42	40	38	37	35	34	32	30	28	26	23	19	13				
Shut-off PSI		439	418	396	374	353	331	309	288	266	245	223	201	180	158	136	115	93	71	50	28

Notes: 1. Performance shown does not include friction loss in the drop pipe. 2. All performance data is based on rated motor nameplate voltage.

# 4" HIGH CAPACITY PUMPS - 35 GPM

## PERFORMANCE



## 4" HIGH CAPACITY PUMPS - 45 GPM

### CAPACITIES IN U.S. GALLONS PER MINUTE

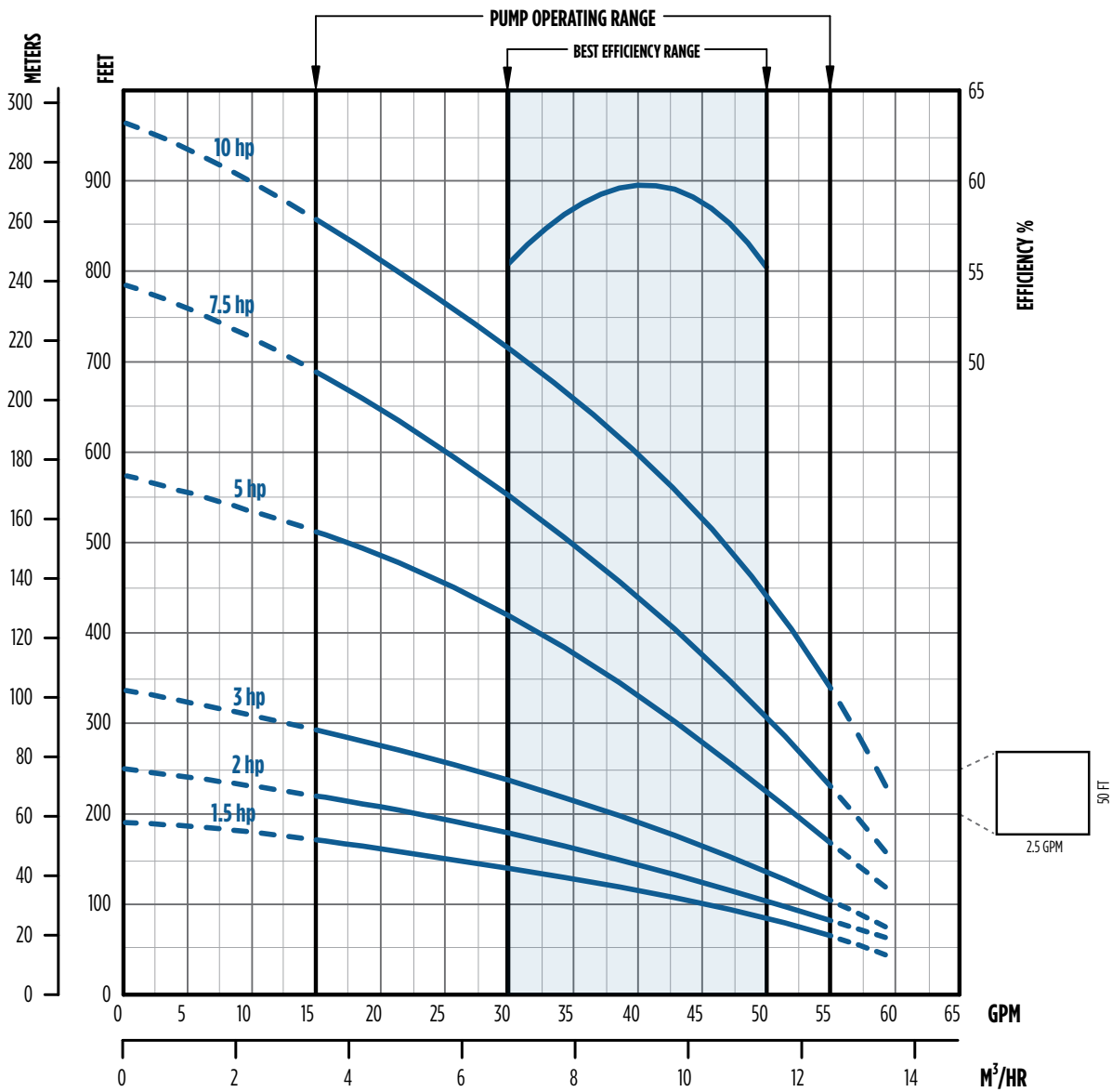
HP	PSI	Depth to Pumping Water Level (Lift) in Feet. Shaded Areas Indicate Most Efficient Performance																									
		20	40	60	80	100	120	140	160	180	200	250	300	350	400	450	500	550	600	650							
1.5	0																										
	10		55	51	45	37	26	20																			
	20	54	50	43	35	27	18																				
	30	49	42	34	26	16																					
	40	41	33	24	15																						
	50	32	23																								
	60	22																									
Shut-off PSI		74	65	56	48	39	30	22	13																		
2	0				55	51	46	41	36	30	23																
	10			55	50	45	40	35	29	22																	
	20		54	49	44	39	34	28	21																		
	30	53	49	44	38	33	27	19																			
	40	48	43	38	32	26	18																				
	50	42	37	31	24	17																					
	60	36	30	23	16																						
Shut-off PSI		99	91	82	74	65	56	48	39	30	22																
3	0							53	49	46	42	38	27														
	10				55	52	49	45	41	37	32	26															
	20			55	52	48	45	41	37	32	26																
	30		54	51	48	44	40	36	32	27	22																
	40	54	51	47	44	40	35	31	26	21	15																
	50	50	47	43	39	35	30	25	20																		
	60	46	42	38	34	30	25	19																			
	70	42	38	33	29	24	18																				
	80	37	33	28	23	17																					
	90	32	27	22	16																						
	100	27	21	16																							
Shut-off PSI		137	129	120	111	103	94	85	77	68	60	38															
5	0								55	54	54	52	48	43	38	32	26	17									
	10								55	53	52	50	48	45	41	36	30	22									
	20								55	53	51	50	48	46	41	36	30	23									
	30								55	53	51	49	47	46	44	39	33	27	19								
	40								55	53	51	49	47	45	43	42	36	31	23								
	50			54	53	51	49	47	45	43	41	39	37	31	24	15											
	60		54	52	50	48	47	45	43	41	39	37	31	24	15												
	70	54	52	50	48	46	44	42	40	38	36	34	31	25	16												
	80	52	50	48	46	44	42	40	38	36	34	31	25	16													
	90	50	48	46	44	42	40	38	36	34	31	25	16														
	100	48	46	44	42	40	38	36	34	31	25	16															
	110	45	44	42	40	38	35	33	31	28	25	17															
	120	43	41	39	37	35	33	30	28	25	21																
	130	41	39	37	35	32	30	27	24	21	17																
	140	39	37	34	32	29	27	24	20	17																	
	150	36	34	32	29	26	23	20	16																		
	160	28	25	22	18																						
Shut-off PSI		240	232	223	214	206	197	188	180	171	162	141	119	97	76	54	32										
7.5	0												54	51	47	43	39	35	30	25	20						
	10												55	52	49	45	41	37	33	28	23	17					
	20												55	54	51	47	44	39	35	30	26	20					
	30												55	54	53	49	46	42	37	33	28	23	17				
	40												55	54	52	51	48	44	40	35	31	26	21	15			
	50												55	53	52	51	49	46	42	38	33	29	24	18			
	60												54	53	52	51	49	48	44	40	36	31	26	21	15		
	70				55	54	53	52	50	49	48	46	44	42	38	34	29	24	18								
	80			55	54	53	52	50	49	47	46	44	42	41	36	32	27	21	16								
	90	55	54	53	51	50	49	47	46	44	43	38	34	29	24	19											
	100	54	52	51	50	48	47	45	44	42	41	36	32	27	22	16											
	110	52	51	50	48	47	45	44	42	40	39	34	30	25	19												
	120	51	49	48	47	45	43	42	40	39	37	32	27	22	17												
	130	49	48	46	45	43	42	40	38	37	35	30	25	20													
	140	48	46	45	43	41	40	38	36	34	33	28	23	17													
	150	46	44	43	41	39	38	38	34	32	30	26	20														
	160	40	39	37	35	33	31	30	28	26	24	18															
Shut-off PSI		331	323	314	305	297	288	279	271	262	254	232	210	189	167	145	124	102	80	59							
10	0												55	53	50	48	45	42	39	35	31	27	22	16			
	10												54	52	49	47	44	41	37	33	29	24	19	16			
	20												53	51	48	45	42	39	36	32	27	22	16				
	30												54	52	49	47	44	41	37	34	30	25	19				
	40												53	51	48	45	43	39	36	32	27	22	17				
	50												55	52	50	47	44	41	38	34	30	25	20				
	60												55	54	51	48	46	43	40	36	32	28	23	17			
	70												55	54	53	52	51	49	47	44	41	38	34	30	26	20	14
	80												55	54	53	52	51	49	46	43	40	36	32	28	23	18	
	90												55	54	53	52	51	49	47	45	42	38	35	31	26	21	15
	100												55	54	53	52	51	49	48	45	42	39	35	31	26	21	15
	110				55	54	53	52	51	50	49	48	46	43	40	37	33	28	24	18							
	120			55	54	53	52	51	50	49	47	46	43	40	37	33	29	24	19								
	130	54	53	52	51	50	49	48	47	46	45	42	39	35	31	27	22	16									
	140	53	52	51	50	49	48	47	46	45	44	41	37	33	29	24	19										
	150	52	51	50	49	48	47	46	45	44	42	39	36	32	27	22	16										
	160	49	48	46	45	44	43	42	40	39	38	34	30	25	20												
Shut-off PSI		410	402	393	385	376	367	359	350	341	333	311	289	268	246	224	201	179	158	136	115	93	71	50			

Notes: 1. Performance shown does not include friction loss in the drop pipe. 2. All performance data is based on rated motor nameplate voltage. 3. Performances for former XP models are the same as 45 gpm models.



# 4" HIGH CAPACITY PUMPS - 45 GPM

## PERFORMANCE



## 4" HIGH CAPACITY PUMPS - 60 GPM

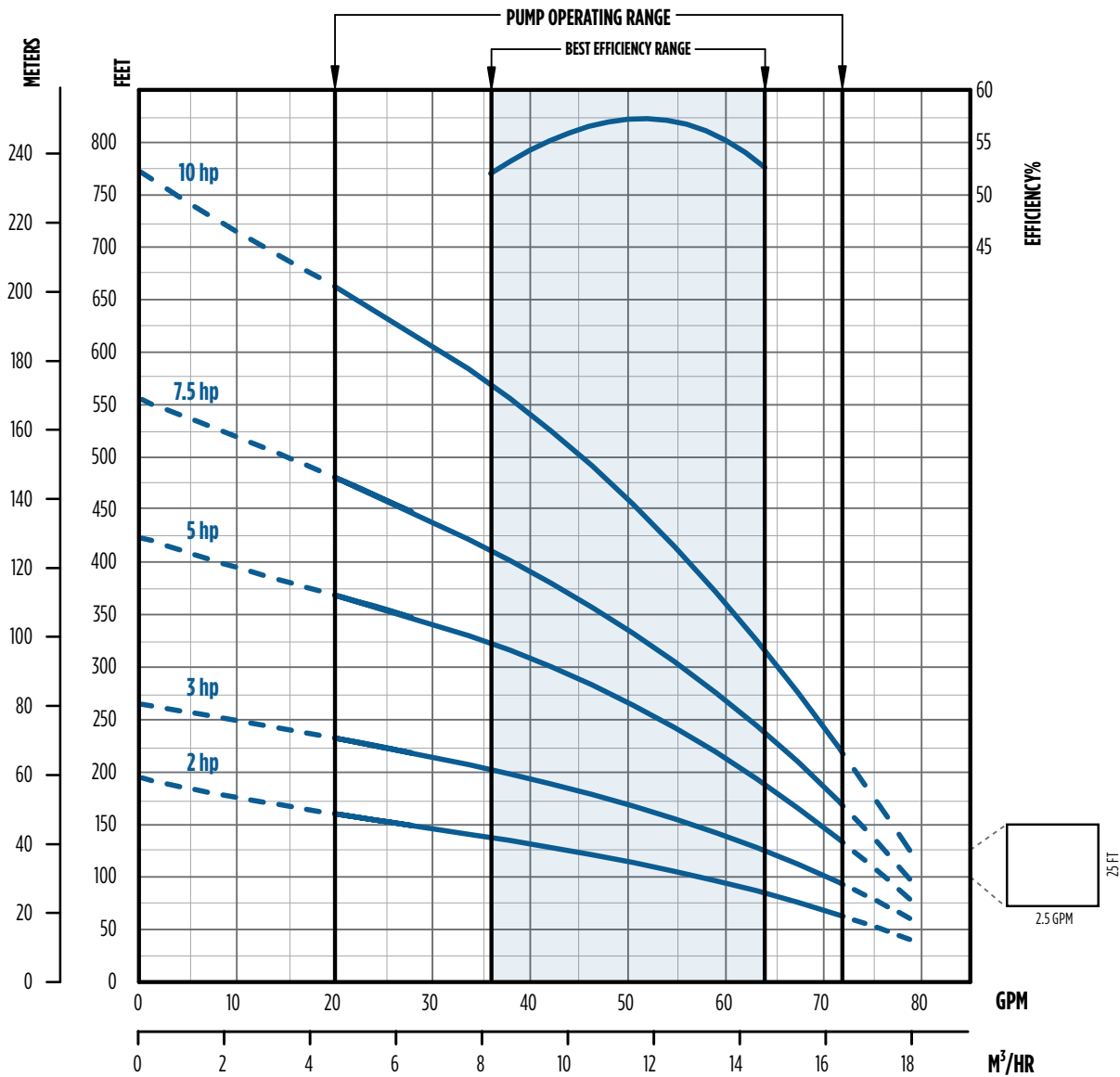
### CAPACITIES IN U.S. GALLONS PER MINUTE

HP	PSI	Depth to Pumping Water Level (Lift) in Feet. Shaded Areas Indicate Most Efficient Performance																				
		20	40	60	80	100	120	140	160	180	200	250	300	350	400	450	500	550				
2	0				66	57	47	35	21													
	10			65	56	45	33	18														
	20	71	63	54	43	30																
	30	62	52	41	28																	
	40	51	40	26																		
	50	38	24																			
	60	22																				
Shut-off PSI		76	67	58	50	41	32	24	15													
3	0					70	66	60	53	46	37											
	10				69	65	59	62	44	35	25											
	20		73	69	64	56	51	43	34	24												
	30	72	68	63	57	50	42	32	22													
	40	67	62	56	49	40	31	20														
	50	61	55	48	39	29																
	60	54	46	37	28																	
Shut-off PSI		106	97	89	80	71	63	54	45	37	28											
5	0							71	68	65	62	54	42	27								
	10						70	68	65	62	59	49	36									
	20					70	67	64	61	58	54	43	28									
	30			72	69	67	64	61	57	54	50	37	20									
	40		72	69	68	63	60	57	53	49	44	29										
	50	71	69	66	63	60	56	53	48	43	38	21										
	60	68	65	62	59	56	52	48	43	37	31											
	70	65	62	59	55	51	47	42	36	30	23											
	80	61	58	55	51	46	41	35	28	21												
	90	58	54	50	45	40	34	27	20													
	100	54	49	45	39	33	26															
Shut-off PSI		175	167	158	149	141	132	123	115	106	97	76	54	32								
7.5	0								71	68	63	56	48	38	27							
	10							72	70	68	65	59	52	43	33	22						
	20						72	70	68	65	63	56	48	39	28							
	30					71	69	67	65	62	60	53	44	34	23							
	40				71	69	67	65	62	60	57	49	40	29								
	50			71	69	67	64	62	59	56	53	45	35	24								
	60		71	69	66	64	61	59	56	53	49	40	30									
	70	70	68	66	64	61	58	55	52	48	45	36	25									
	80	68	66	63	61	58	55	52	48	45	41	31										
	90	65	63	60	57	54	51	48	44	41	37	26										
	100	62	60	57	54	51	47	44	40	36	32	20										
	110	59	57	53	50	47	43	39	35	31	26											
	120	56	53	50	46	43	39	35	30	26	21											
	130	52	49	46	42	38	34	30	25	20												
	140	49	45	41	37	33	29	24	19													
	150	45	41	37	33	28	24															
	160	31	26	21																		
Shut-off PSI		232	223	214	206	197	188	180	171	162	154	132	110	89	67	45						
10	0										71	69	66	61	57	51	45	39	31	22		
	10									72	71	69	66	61	57	52	46	39	31	23		
	20									72	71	69	66	61	57	52	46	39	31	23		
	30									72	70	69	67	66	64	59	55	49	43	36	28	
	40									72	70	69	67	66	64	60	55	50	43	36	28	
	50									72	70	69	67	66	64	60	55	50	43	36	28	
	60									72	70	68	67	65	64	62	58	53	47	40	33	24
	70									72	70	69	67	66	64	60	55	50	44	37	29	20
	80									72	70	68	67	65	64	62	58	53	47	41	33	25
	90									72	70	68	67	65	64	62	58	53	47	41	33	25
	100									72	70	68	67	65	64	62	58	53	47	41	33	25
	110									72	70	68	67	65	64	62	58	53	47	41	33	25
	120									72	70	68	67	65	64	62	58	53	47	41	33	25
	130									72	70	68	67	65	64	62	58	53	47	41	33	25
	140									72	70	68	67	65	64	62	58	53	47	41	33	25
	150									72	70	68	67	65	64	62	58	53	47	41	33	25
	160									72	70	68	67	65	64	62	58	53	47	41	33	25
Shut-off PSI		326	317	308	300	291	282	274	265	256	248	226	204	183	161	139	118	96	74	53		

Notes: 1. Performance shown does not include friction loss in the drop pipe. 2. All performance data is based on rated motor nameplate voltage. 3. Performances for former XP models are the same as 60 gpm models.

# 4" HIGH CAPACITY PUMPS - 60 GPM

## PERFORMANCE



## 4" HIGH CAPACITY PUMPS - 90 GPM

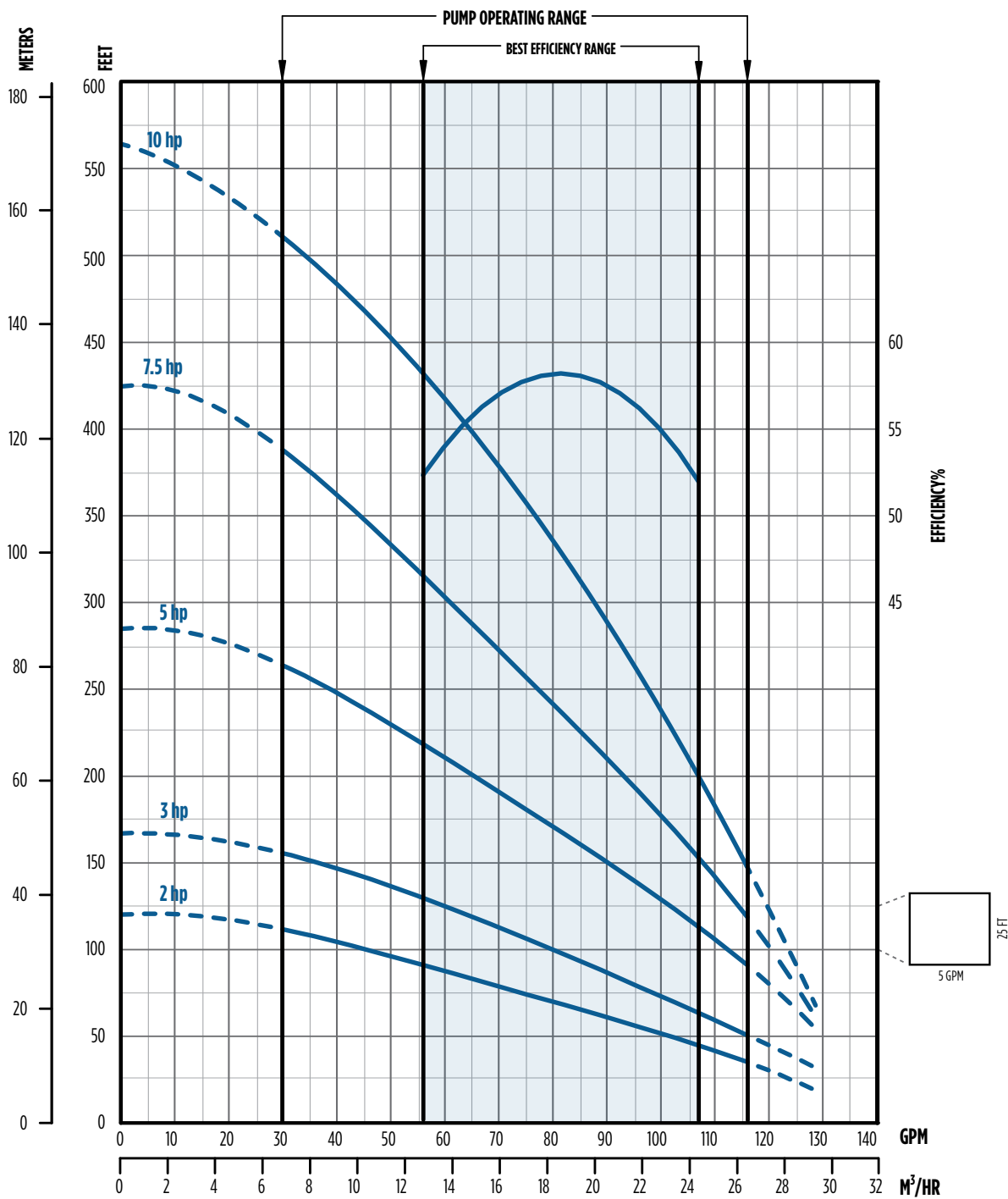
### CAPACITIES IN U.S. GALLONS PER MINUTE

HP	PSI	Depth to Pumping Water Level (Lift) in Feet. Shaded Areas Indicate Most Efficient Performance																		
		20	40	60	80	100	120	140	160	180	200	250	300	350	400	450	500	550		
2	0					48														
	10	110	88	64	45															
	20	84	61	40																
	30	58	35																	
	40																			
	50																			
	60																			
Shut-off PSI		43	35	26	17	9														
3	0				110	96	79	64	49											
	10			108	93	76	61	46												
	20	106	90	74	59	43														
	30	88	71	57	39															
	40	69	55	35																
	50	53	30																	
	60																			
Shut-off PSI		64	55	46	38	29	20	12												
5	0					113	106	96	85	74	64	41								
	10				112	104	94	83	72	63	55									
	20			111	103	92	81	71	62	53	44									
	30		110	101	91	80	69	60	52	42										
	40	100	100	89	78	68	59	51	40											
	50	98	87	76	66	58	49	38												
	60	85	75	65	56	48	35													
	70	73	63	55	46	33														
	80	62	54	45	30															
	90	53	43																	
	100	41																		
Shut-off PSI		115	106	97	89	80	71	63	54	45	37	15								
7.5	0						116	112	107	101	94	76	60	46						
	10					115	111	108	100	93	86	68	54	38						
	20				115	110	105	99	92	85	77	61	47							
	30			114	109	104	98	91	83	76	70	55	40							
	40		113	109	103	96	90	82	75	69	62	49								
	50	113	108	102	95	88	81	74	68	61	56	41								
	60	107	101	94	87	80	73	67	61	55	50	31								
	70	100	93	86	79	72	66	60	54	49	42									
	80	92	85	78	71	65	59	53	48	41	33									
	90	84	77	70	64	58	53	47	40	31										
	100	76	69	63	57	52	46	39												
	110	68	62	56	51	45	38													
	120	61	55	50	44	36														
	130	55	49	43	35															
	140	48	42	33																
	150	41	32																	
160																				
Shut-off PSI		175	167	158	149	141	132	123	115	106	97	76	54	32						
10	0					122	119	116	113	109	106	99	91	83	75	65	54	42	35	11
	10				122	119	116	112	109	106	102	95	87	78	69	59	48	34	25	
	20			121	118	115	112	108	105	101	98	90	82	73	64	53	40	24	13	
	30		121	118	115	111	108	104	101	97	94	86	77	68	57	46	31	11		
	40	120	117	114	111	107	104	100	97	93	89	81	72	62	51	38	21			
	50	117	114	110	107	103	100	96	92	88	84	76	66	56	44	29	7			
	60	113	110	106	103	99	96	92	88	84	79	70	60	49	35	18				
	70	109	106	102	99	95	91	87	83	79	74	65	54	41	26	2				
	80	105	102	98	94	91	87	82	78	74	69	59	47	33	14					
	Shut-off PSI		236	227	219	210	201	193	184	175	167	158	141	123	106	89	71	54	37	28

Notes: 1. Performance shown does not include friction loss in the drop pipe. 2. All performance data is based on rated motor nameplate voltage.

# 4" HIGH CAPACITY PUMPS - 90 GPM

## PERFORMANCE



## 6" HIGH CAPACITY PUMPS

Ideal for farm, home, irrigation, industry, municipal, and commercial applications, equipped with the power, performance, and reliability you expect from Franklin Electric.

Flow ratings of 50, 75, 100, and 125 gpm with TDH up to 1200 ft.

Horsepower ranges from 1-1/2 to 40 hp.

### FEATURES

- Heavy-duty stainless steel discharge head and motor bracket
- Stainless steel shaft, shell, intake screen, and cable guard provides corrosion resistance and longer pump life
- Glass-filled Modified PPO impeller stage assemblies provide exceptional strength and durability
- Ceramic shaft sleeve and rubber discharge bearing minimizes bearing wear and shaft misalignment
- 3" NPT heavy-duty stainless steel discharge head
- Modular motor bracket enabling 4" or 6" motor mount for 5-10 hp units





## 6" HIGH CAPACITY PUMPS - ORDERING INFORMATION

### ORDERING INFORMATION

6" Pump Ends							
GPM	HP	Stages	Motor Fit	Ordering Info.		Dimensions (in)	Wt. (lbs)
				Model	Order	Pump End Only	
50	1.5	3	4"	50FA1S6-PE	94825003	13.51	30
	2	4	4"	50FA2S6-PE	94825004	15.13	31
	3	5	4"	50FA3S6-PE	94825005	16.76	32
	5	8	4" & 6"	50FA5S6-PE	94825008	21.63	36
	7.5	11	4" & 6"	50FA7S6-PE	94825011	26.51	40
	10	15	4" & 6"	50FA10S6-PE	94825015	32.94	46
	15	22	4" & 6"	50FA15S6-PE	94825022	47.64	54
75	3	3	4"	75FA3S6-PE	94827503	13.51	30
	5	5	4" & 6"	75FA5S6-PE	94827505	16.76	32
	7.5	7	4" & 6"	75FA7S6-PE	94827507	20.01	35
	10	9	4" & 6"	75FA10S6-PE	94827509	23.26	38
	15	13	6"	75FA15S6-PE	94827513	29.76	43
	20	17	6"	75FA20S6-PE	94827517	36.19	48
	25	23	6"	75FA25S6-PE	94827523	46.00	54
100	5	3	4" & 6"	100FA5S6-PE	94820003	14.62	30
	7.5	5	4" & 6"	100FA7S6-PE	94820005	18.51	32
	10	6	4" & 6"	100FA10S6-PE	94820006	20.49	34
	15	9	6"	100FA15S6-PE	94820009	26.31	38
	20	13	6"	100FA20S6-PE	94820013	34.07	43
	25	16	6"	100FA25S6-PE	94820016	39.94	47
125	5	2	4" & 6"	125FA5S6-PE	94822502	12.94	29
	7.5	3	4" & 6"	125FA7S6-PE	94822503	15.05	30
	10	4	4" & 6"	125FA10S6-PE	94822504	17.13	31
	15	7	6"	125FA15S6-PE	94822507	23.37	35
	20	9	6"	125FA20S6-PE	94822509	27.54	38
	25	11	6"	125FA25S6-PE	94822511	31.70	40
	30	13	6"	125FA30S6-PE	94822513	35.87	43
	40	18	6"	125FA40S6-PE	94822518	46.27	48

**Notes:** Discharge is 3" NPT. Maximum diameter across cable guard is 5.50" on all models.

## 6" HIGH CAPACITY PUMPS - 50 GPM

### CAPACITIES IN U.S. GALLONS PER MINUTE

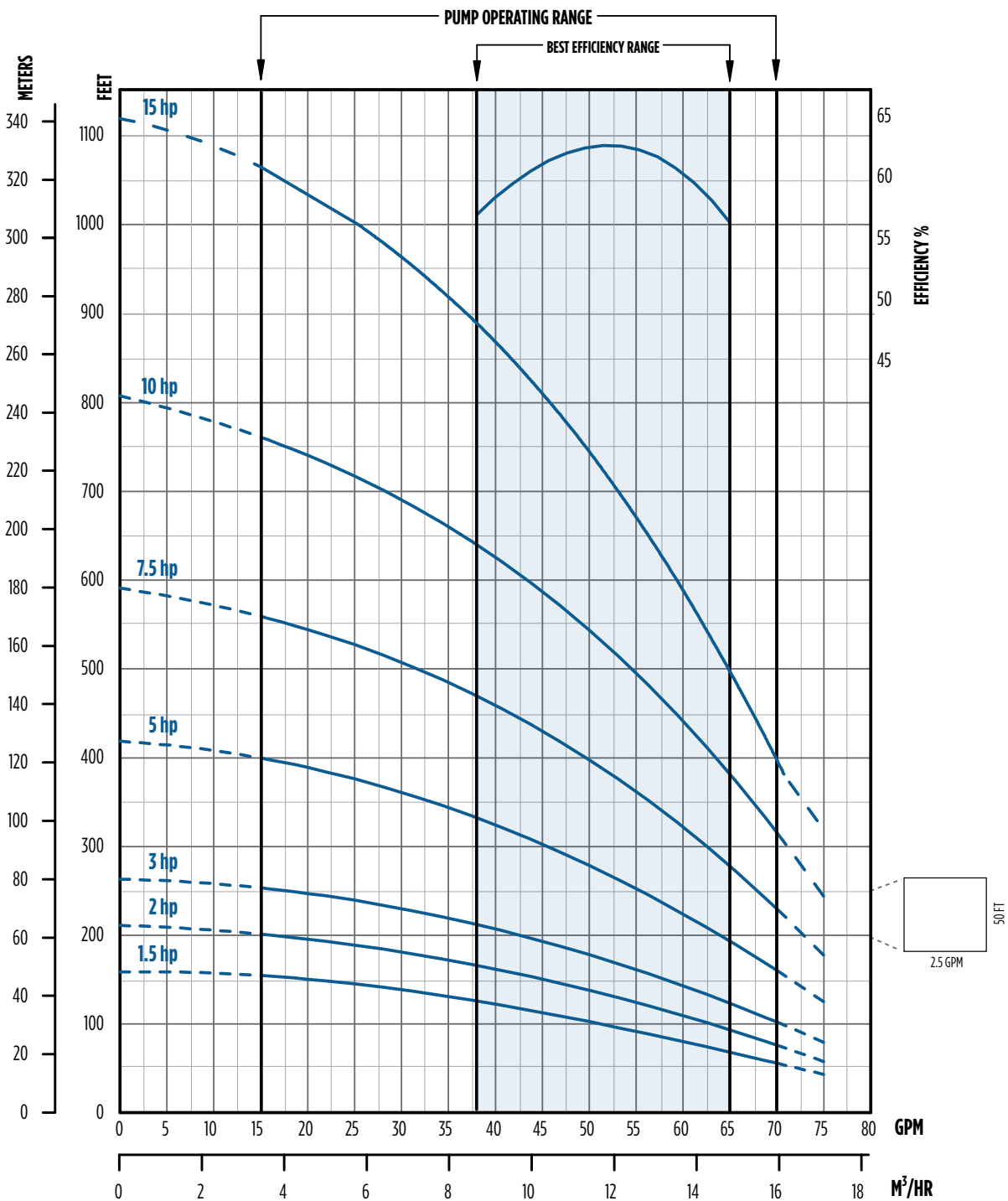
HP	PSI	Depth to Pumping Water Level (Lift) in Feet. Shaded Areas Indicate Most Efficient Performance																	
		20	40	60	80	100	120	140	160	180	200	250	300	350	400	450	500	550	
1.5	0																		
	20	66	58	47	38	25													
	30	56	46	37	21														
	40	44	35	16															
	50	33																	
Shut-off PSI		60	51	43	34	25	17	8											
2	0					69	63	57	49	41	31	16							
	20		67	62	54	46	38	27											
	30	67	60	53	45	37	25												
	40	59	52	44	35	23													
	50	51	42	34	20														
Shut-off PSI		83	74	65	57	48	39	31	22	13	5								
3	0					70	66	61	55	49	42	17							
	20				69	65	60	53	47	40	33	21							
	30		68	64	59	52	46	39	31	18									
	40	68	63	58	51	45	38	30	15										
	50	63	57	50	44	37	28												
Shut-off PSI		105	97	88	79	71	62	53	45	36	27	6							
5	0								70	67	64	55	45	34					
	20							69	66	63	60	56	46	35	16				
	30					69	66	63	59	56	51	41	28						
	40				68	66	62	59	55	51	47	36	18						
	50		70	68	65	62	58	54	50	46	42	29							
Shut-off PSI		173	164	155	147	138	129	121	112	103	95	73	51	30					
7.5	0									70	68	63	57	49	42	32	18		
	20									70	68	63	57	50	42	33	19		
	30								70	68	66	64	60	54	47	38	27		
	40								70	68	66	64	58	51	43	34	21		
	50							69	67	65	63	61	54	47	39	28			
Shut-off PSI		247	239	230	221	213	204	195	187	178	169	148	126	104	83	61	39	18	
10	0										68	64	60	55	50	44	37	29	
	20										68	64	60	55	50	44	37	29	
	30								70	66	62	57	52	47	41	34	25		
	40								70	68	64	60	55	50	44	38	30	20	
	50								70	66	62	58	53	47	41	34	26		
Shut-off PSI		306	298	289	281	272	263	242	220	198	177	155	133	112	90	68	47	25	
15	0																		
	20					79	78	77	76	74	72	70	68	65	62	59	56	53	49
	40				80	79	78	77	76	75	74	72	70	68	65	63	60	57	53
	60	80	78	77	76	76	75	74	73	72	70	68	66	63	60	57	54	50	47
	80	77	76	75	75	74	73	72	71	71	68	66	63	60	57	54	50	47	43
	100	75	74	73	73	72	71	70	69	68	66	63	60	57	54	51	47	43	39
	120	73	72	72	71	70	69	68	67	66	64	61	58	54	51	47	44	40	35
	140	71	71	70	69	68	67	66	65	64	61	58	55	51	48	44	40	36	30
Shut-off PSI		67	66	65	64	62	61	59	58	55	52	48	45	41	36	31	24	16	

**Discharge 3" NPT**

**Notes:** 1. Performance shown does not include friction loss in the drop pipe. 2. All performance data is based on rated motor nameplate voltage.

# 6" HIGH CAPACITY PUMPS - 50 GPM

## PERFORMANCE



## 6" HIGH CAPACITY PUMPS - 75 GPM

### CAPACITIES IN U.S. GALLONS PER MINUTE

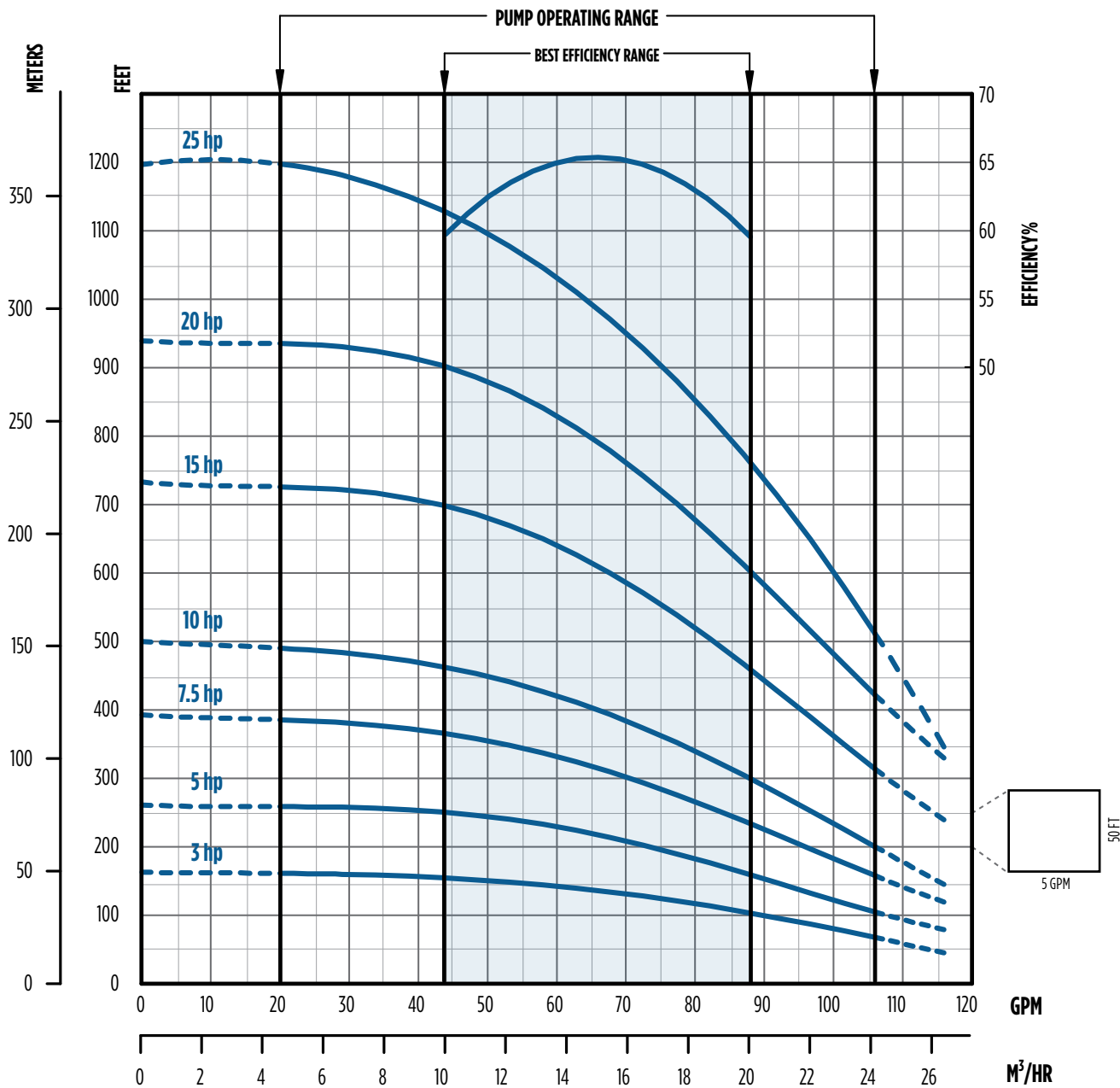
HP	PSI	Depth to Pumping Water Level (Lift) in Feet. Shaded Areas Indicate Most Efficient Performance																		
		20	40	60	80	100	120	140	160	180	200	250	300	350	400	450	500	550		
3	0			108	101	89	77	64	26											
	20	106	98	85	73	57														
	30	96	83	72	53															
	40	81	70	47																
	50	68	40																	
Shut-off PSI		61	53	44	35	27	18	9	1											
5	0				116	106	102	96	88	79	73	41								
	20		112	105	100	93	85	77	71	64	47									
	30	110	104	99	92	84	76	70	63	43										
	40	103	98	91	82	75	69	61	37											
	50	97	89	81	74	68	58	31												
Shut-off PSI		103	95	86	77	69	60	51	45	34	25	4								
7.5	0					116	109	105	101	97	83	70	54							
	20				114	108	104	100	96	90	85	71	56							
	30			112	107	103	99	95	89	84	78	65	40							
	40		111	106	103	99	94	88	83	77	72	57								
	50	111	106	102	98	93	88	82	76	71	66	43								
Shut-off PSI		159	150	142	133	124	116	107	98	90	81	59	38	16						
10	0								112	109	106	98	88	77	66	50				
	20					116	111	108	105	102	99	89	78	67	52					
	30				115	111	107	104	101	98	94	84	73	61	39					
	40			114	110	107	104	101	98	94	89	78	68	54	18					
	50		114	109	106	104	100	97	93	89	84	74	63	42						
Shut-off PSI		205	196	187	179	170	161	153	144	135	127	105	84	62	40	19				
15	0									112	107	103	100	94	88	82	76	71	66	
	20					115	107	103	97	90	82	75	69	61	43					
	30				114	110	105	100	94	86	78	72	66	55	28					
	40			113	110	107	103	98	90	82	75	69	62	45						
	50		113	109	107	105	101	95	87	79	73	66	56	31						
Shut-off PSI		263	254	245	237	228	206	185	163	142	120	98	77	55	33	12				
20	0								113	107	103	100	94	88	82	76	71	66	58	
	20					113	107	104	100	95	89	82	76	72	67	59	44	43		
	30					110	106	102	98	92	86	79	74	69	64	54	33			
	40				114	108	104	100	95	89	83	77	72	67	60	46				
	50				110	106	102	98	93	86	80	74	70	64	55	35				
Shut-off PSI		353	345	336	327	319	297	275	254	232	210	189	167	145	124	102	80	59	37	
25	0									101	97	93	89	84	79	75	70	65	59	
	20			116	112	109	107	104	101	98	93	89	84	80	75	70	65	59	51	
	30			114	111	108	106	103	100	96	91	87	82	78	73	68	63	56	46	
	40			112	109	107	104	101	98	94	89	85	80	75	71	66	60	51	40	
	50	114	111	108	106	103	100	96	92	87	83	78	73	69	63	56	47	33		
Shut-off PSI		412	391	369	347	326	304	283	261	239	218	196	174	153	131	109	88	66	44	

Discharge 3" NPT

Notes: 1. Performance shown does not include friction loss in the drop pipe. 2. All performance data is based on rated motor nameplate voltage.

# 6" HIGH CAPACITY PUMPS - 75 GPM

## PERFORMANCE



## 6" HIGH CAPACITY PUMPS - 100 GPM

### CAPACITIES IN U.S. GALLONS PER MINUTE

HP	PSI	Depth to Pumping Water Level (Lift) in Feet. Shaded Areas Indicate Most Efficient Performance																
		20	40	60	80	100	120	140	160	180	200	250	300	350	400	450	500	550
5	0																	
	20																	
	30																	
	40																	
	50																	
	60																	
	70																	
Shut-off PSI		74	65	57	48	39	31	22	13									
7.5	0																	
	20																	
	30																	
	40																	
	50																	
	60																	
	70																	
Shut-off PSI		130	121	113	104	95	87	78	69	61	52	30	9					
10	0																	
	20																	
	30																	
	40																	
	50																	
	60																	
	70																	
Shut-off PSI		161	153	144	135	127	118	110	101	92	84	62	40	19				
15	0																	
	20																	
	30																	
	40																	
	50																	
	60																	
	70																	
Shut-off PSI		247	238	229	221	212	204	195	186	178	169	147	126	104	82	61	39	17
20	0																	
	20																	
	30																	
	40																	
	50																	
	60																	
	70																	
Shut-off PSI		280	258	236	215	193	172	150	128	107	85	63	42					
25	0																	
	20																	
	30																	
	40																	
	50																	
	60																	
	70																	
Shut-off PSI		359	338	316	294	273	251	229	208	186	164	143	121	99				

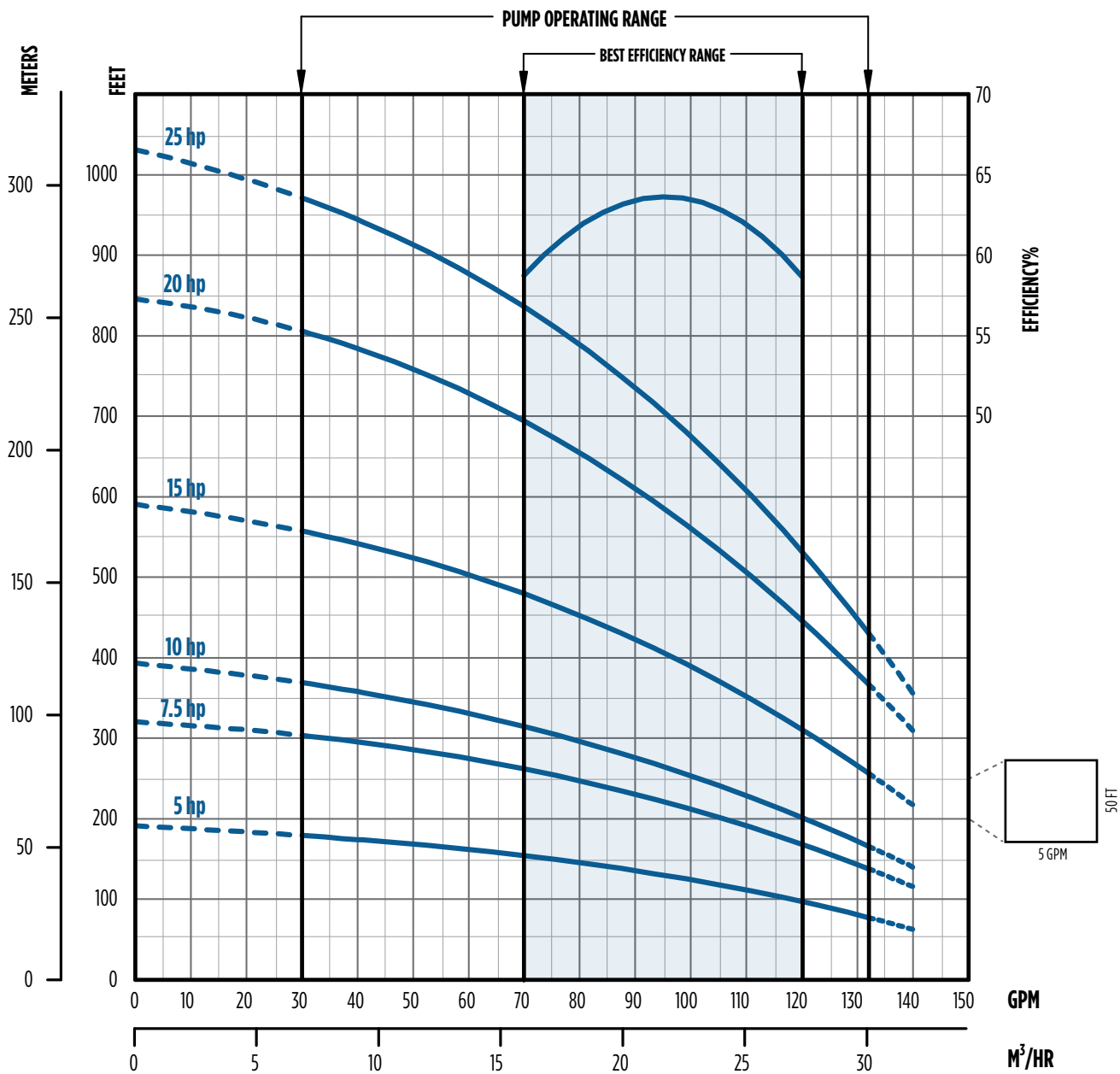
**Discharge 3" NPT**

**Notes:** 1. Performance shown does not include friction loss in the drop pipe. 2. All performance data is based on rated motor nameplate voltage.



# 6" HIGH CAPACITY PUMPS - 100 GPM

## PERFORMANCE



## 6" HIGH CAPACITY PUMPS - 125 GPM

### CAPACITIES IN U.S. GALLONS PER MINUTE

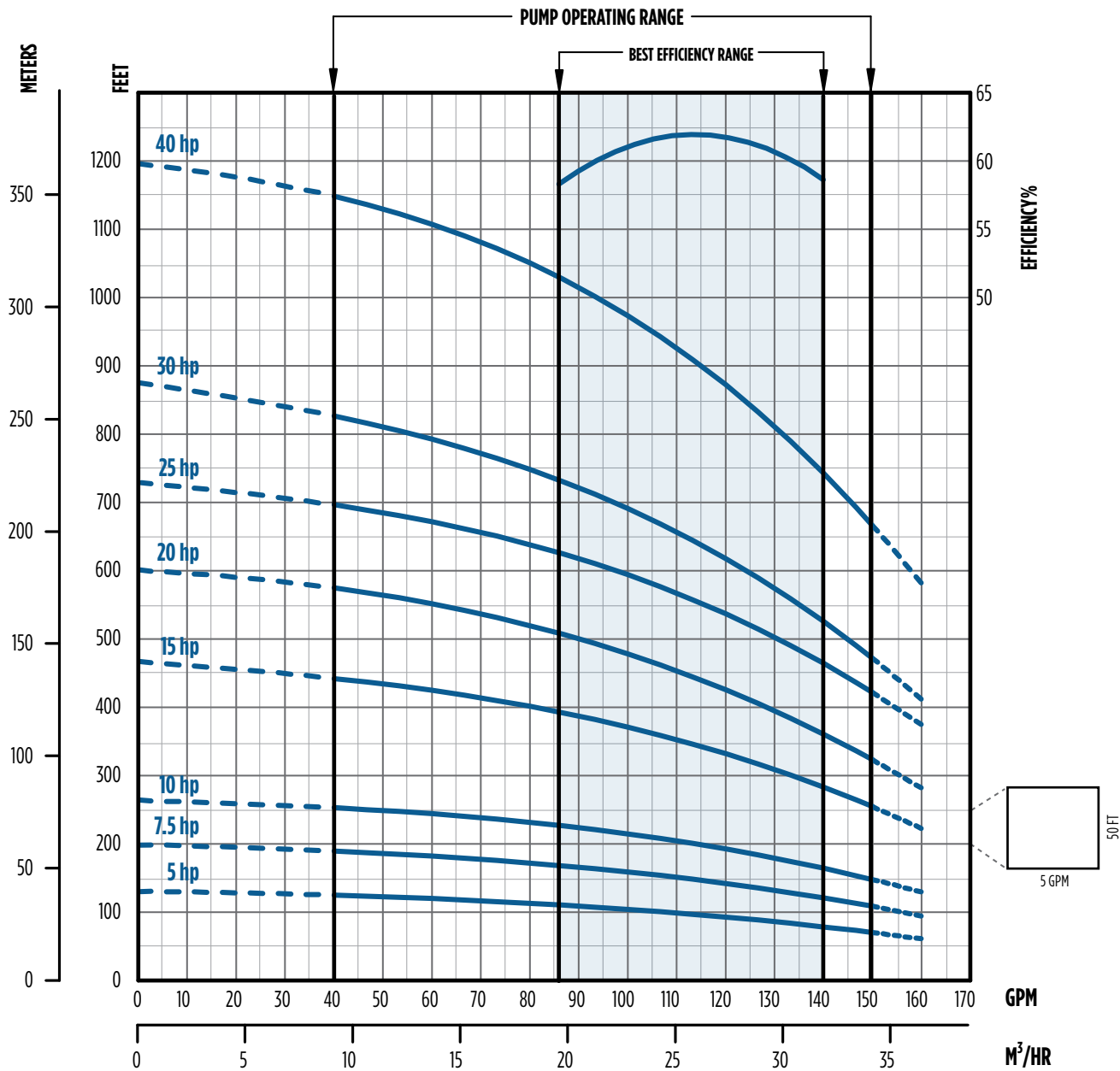
HP	PSI	Depth to Pumping Water Level (Lift) in Feet. Shaded Areas Indicate Most Efficient Performance																			
		20	40	60	80	100	120	140	160	180	200	250	300	350	400	450	500	550	600	650	
5	0				140	106	62														Shut-off 130 ft
	20		131	94																	
	30	126	88																		
	40	82																			
	Shut-off PSI	48	39	30	22	13	4														
7.5	0				135	116	90	48	99	64											Shut-off 198 ft
	20																				
	30		150	133	112	85															
	40	147	130	109	79																
	50	127	105	73																	
	Shut-off PSI	77	69	60	51	43	34	25	17	8											
10	0								143	129	114	45									Shut-off 263 ft
	20							139	125	109	88	54									
	30				149	137	122	106	84	47											
	40			148	135	120	103	79													
	50		146	132	118	100	74														
	Shut-off PSI	105	97	88	79	71	62	53	45	36	27	6									
15	0												134	112	81						Shut-off 467 ft
	20												135	114	84						
	30											145	126	101	65						
	40								144	137	116	87									
	50							149	143	136	128	104	68								
	Shut-off PSI		185	176	168	159	150	142	133	124	116	94	72	51	29						
20	0												144	130	114	93	62				Shut-off 601 ft
	20												138	123	105	81	41				
	30											145	131	115	95	65					
	40										139	124	107	83	45						
	50									146	132	117	97	68							
	Shut-off PSI	252	243	234	226	217	208	200	191	182	174	152	130	109	87	65	44	22			
25	0													143	133	119	99	71			Shut-off 734 ft
	20													144	140	128	112	90	57		
	30													149	145	135	121	103	76		
	40													150	140	129	114	92	60		
	50													146	135	123	104	78	42		
	Shut-off PSI			292	283	275	266	257	249	240	231	210	188	166	145	123	101	80	58	37	
30	0																				Shut-off 873 ft
	20					144	143	134	125	113	99	79	54								
	30					149	140	131	121	108	92	70	43								
	40					145	136	126	115	101	83	58									
	50				149	141	132	122	109	93	72	45									
	Shut-off PSI	270	248	226	205	183	161	140	118	96	75	53	31								
40	0																				Shut-off 1194 ft
	20								150	145	139	132	126	118	1108	96	82	62			
	30								148	142	136	129	122	114	103	90	73	52			
	40								145	139	133	126	118	109	97	83	64	40			
	50								148	142	136	130	123	114	104	91	75	53			
	Shut-off PSI	409	387	365	344	322	300	279	257	235	214	192	170								

Discharge 3" NPT

Notes: 1. Performance shown does not include friction loss in the drop pipe. 2. All performance data is based on rated motor nameplate voltage.

# 6" HIGH CAPACITY PUMPS - 125 GPM

## PERFORMANCE





## E SERIES ENVIRONMENTAL PUMPS

### APPLICATIONS

- Filtered effluent service
- Aeration
- Ornamental fountains/waterfalls

### FEATURES

- Ideal for effluent pumping applications
- Stainless steel or thermoplastic discharge and motor bracket are tough and non-corrosive. Both materials are highly resistant to damage by minerals, metals, and other substances typically found in water
- Heavy-duty, 300 V, 10' SJ00W motor leads
- Ceramic bearing sleeve has time proven durability for years of reliable service
- Hex rubber bearing has extra large surface assuring shaft stability and multiple flow channels keeping particles away from bearing surfaces
- Proven hydraulic staging allows close tolerances and increased performance
- Carbon phenolic upthrust washer prevents excessive wear in severe applications
- Removable built-in check valve on 10-20 gpm pumps. No built-in check valves on high capacity pumps
- Powered by a Franklin Electric submersible motor



## E SERIES ENVIRONMENTAL PUMPS - ORDERING INFORMATION

### PLASTIC ORDERING INFORMATION

1/2 - 1.5 HP Single-Phase Units							1/2 - 2 HP Pump Ends						
GPM	HP	Volt	Wire	Order	Model	Wt. (lbs)	GPM	HP	Volt	Wire	Order	Model	Wt. (lbs)
10	1/2	115	2	94741005	10FE05P4-2W115	25	10	1/2	N/A	2	94751005	10FE05P4-PE	7
	1/2	230	2	94741010	10FE05P4-2W230	25		3/4	N/A	N/A	94751010	10FE07P4-PE	8
	3/4	230	2	94741015	10FE07P4-2W230	29		1	N/A	N/A	94751015	10FE1P4-PE	9
	1	230	2	94741020	10FE1P4-2W230	33		1.5	N/A	N/A	94751020	10FE15P4-PE	10
	1.5	230	2	94741025	10FE15P4-2W230	41		20	1/2	N/A	N/A	94752005	20FE05P4-PE
20	1/2	115	2	94742005	20FE05P4-2W115	24	3/4		N/A	N/A	94752010	20FE07P4-PE	6
	1/2	230	2	94742010	20FE05P4-2W230	24	1		N/A	N/A	94752015	20FE1P4-PE	7
	3/4	230	2	94742015	20FE07P4-2W230	28	1.5		N/A	N/A	94752020	20FE15P4-PE	8
	1	230	2	94742020	20FE1P4-2W230	31	2		N/A	N/A	94752025	20FE2P4-PE	9
	1.5	230	2	94742025	20FE15P4-2W230	39							

Notes: Discharge is 1-1/4" NPT. Maximum diameter across cable guard is 3.90" on all models.

### STAINLESS STEEL ORDERING INFORMATION

1/2 - 1.5 HP Single-Phase Units						
GPM	HP	Volt	Wire	Order	Model	Wt. (lbs)
35	1/2	115	2	94743505	35FE05S4-2W115	25
	1/2	230	2	94743510	35FE05S4-2W230	25
	3/4	230	2	94743515	35FE07S4-2W230	29
	1	230	2	94743520	35FE1S4-2W230	33
	1.5	230	2	94743525	35FE15S4-2W230	39
45	1/2	115	2	94744505	45FE05S4-2W115	28
	1/2	230	2	94744510	45FE05S4-2W230	28
	3/4	230	2	94744515	45FE07S4-2W230	33
	1	230	2	94744520	45FE1S4-2W230	36
	1.5	230	2	94744525	45FE15S4-2W230	44
60	1/2	115	2	94746005	60FE05S4-2W115	29
	1/2	230	2	94746010	60FE05S4-2W230	29
	3/4	230	2	94746015	60FE07S4-2W230	33
	1	230	2	94746020	60FE1S4-2W230	37
	1.5	230	2	94746025	60FE15S4-2W230	45
90	1.5	230	2	94749025	90FE15S4-2W230	44

### PUMP END ONLY ORDERING INFORMATION

1/2 - 3 HP Pump Ends					
GPM	HP	Order	Model	Wt. (lbs)	
35	1/2	94753505	35FE05S4-PE	7	
	3/4	94753510	35FE07S4-PE	8	
	1	94753515	35FE1S4-PE	9	
	1.5	94753520	35FE15S4-PE	10	
	2	94753525	35FE2S4-PE	11	
	3	94753530	35FE3S4-PE	12	
45	1/2	94754505	45FE05S4-PE	10	
	3/4	94754510	45FE07S4-PE	11	
	1	94754515	45FE1S4-PE	12	
	1.5	94754520	45FE15S4-PE	15	
	2	94754525	45FE2S4-PE	16	
	3	94754530	45FE3S4-PE	19	
60	1/2	94756005	60FE05S4-PE	11	
	3/4	94756010	60FE07S4-PE	12	
	1	94756015	60FE1S4-PE	13	
	1.5	94756020	60FE15S4-PE	14	
	2	94756025	60FE2S4-PE	15	
	3	94756030	60FE3S4-PE	17	
90	1.5	94759020	90FE15S4-PE	15	
	2	94759025	90FE2S4-PE	15	
	3	94759030	90FE3S4-PE	17	

Notes: Discharge is 2" NPT with no built in check valve. Maximum diameter across cable guard is 3.90" on all models.

## E SERIES ENVIRONMENTAL PUMPS - 10 GPM THERMOPLASTIC

### CAPACITIES IN U.S. GALLONS PER MINUTE

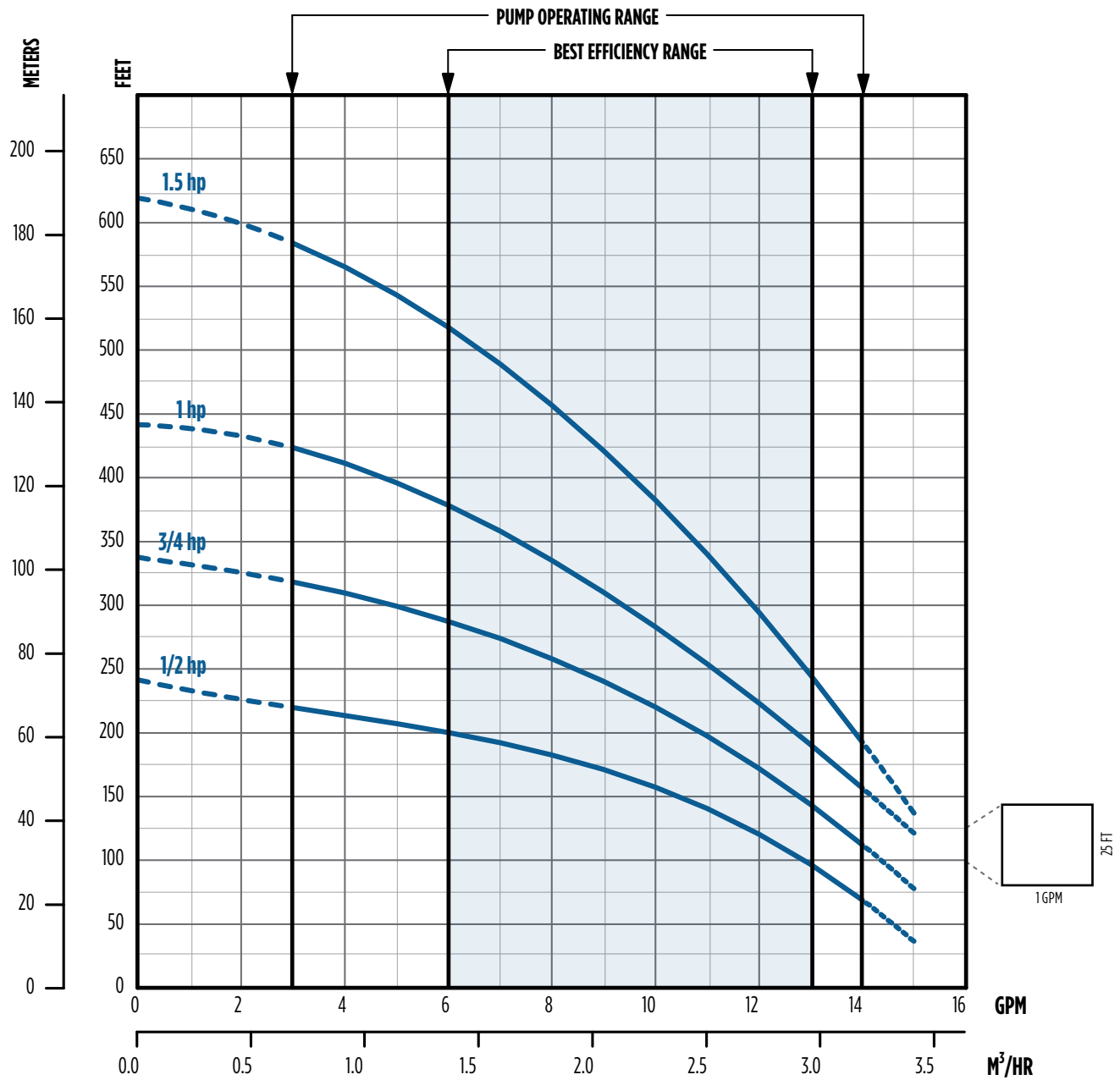
HP	PSI	Depth to Pumping Water Level (Lift) in Feet. Shaded Areas Indicate Most Efficient Performance																		
		20	40	60	80	100	120	140	160	180	200	250	300	350	400	450	500	550	600	
1/2	0																			
	20	14	13	13	12	11	9	8	5											
	30	13	12	12	11	9	7	5												
	40	12	11	10	9	7	4													
	50	11	10	9	6	4														
	60	10	8	6	3															
	70	8	6	3																
	80	5																		
	Shut-off PSI	96	87	79	70	61	53	44	35	27	18									
3/4	0					14	14	13	12	12	11	8	5							
	20			14	14	13	12	11	10	10	9	5								
	30		14	13	13	12	11	10	10	9	7	3								
	40	14	13	13	12	11	10	9	8	7	6									
	50	13	13	12	11	10	9	8	7	5	3									
	60	13	12	11	10	9	8	7	5	3										
	70	12	11	10	9	8	6	5												
	80	11	10	9	8	6	4													
	Shut-off PSI	137	129	120	111	103	94	85	77	68	59	38	16							
1	0						14	14	13	13	11	9	7	5						
	20					14	14	13	13	12	11	9	8	5						
	30				14	14	13	13	12	11	10	9	7	3						
	40			14	13	13	12	12	11	10	10	8	5							
	50	14	14	13	13	12	12	11	10	9	9	7	4							
	60	14	13	13	12	12	11	10	9	9	8	6								
	70	13	13	12	11	11	10	9	8	8	7	4								
	80	13	12	11	11	10	9	8	8	7	6									
	Shut-off PSI	182	174	165	156	148	139	130	122	113	105	83	61	40	18					
1.5	0						14	14	14	14	13	12	11	9	8	7	5			
	20					14	14	14	13	13	12	11	10	8	7	5				
	30					14	14	14	13	13	13	12	10	9	8	6	4			
	40				14	14	14	13	13	13	12	11	10	8	7	5				
	50			14	14	14	13	13	12	12	12	10	9	8	6	4				
	60		14	14	14	13	13	12	12	12	11	10	8	7	5	3				
	70	14	14	13	13	13	12	12	11	11	10	9	8	6	4					
	80	14	13	13	13	12	12	11	11	10	10	9	7	5	3					
	Shut-off PSI	259	251	242	233	225	216	207	199	190	181	160	138	117	95	73	52	30	8	

Notes: 1. Performance shown does not include friction loss in the drop pipe. 2. All performance data is based on rated motor nameplate voltage.



E SERIES ENVIRONMENTAL PUMPS - 10 GPM THERMOPLASTIC

PERFORMANCE



## E SERIES ENVIRONMENTAL PUMPS - 20 GPM THERMOPLASTIC

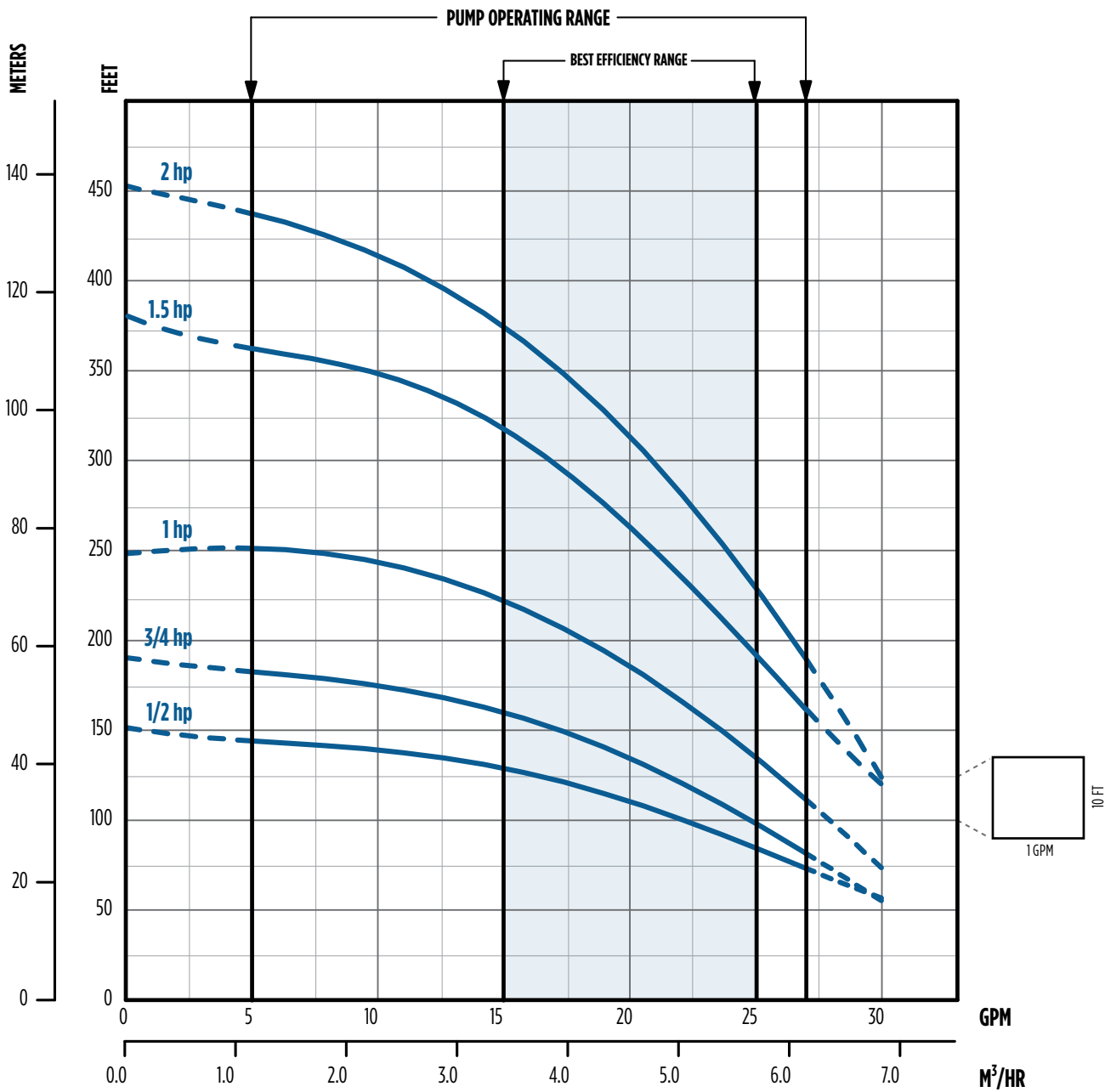
### CAPACITIES IN U.S. GALLONS PER MINUTE

HP	PSI	Depth to Pumping Water Level (Lift) in Feet. Shaded Areas Indicate Most Efficient Performance																
		20	40	60	80	100	120	140	160	180	200	250	300	350	400	450	500	550
1/2	0				26	22	18	9										
	20		24	21	16													
	30	24	21	15														
	40	20	13															
	50	12																
	60																	
	70																	
	80																	
Shut-off PSI		57	48	40	31	22	14	5										
3/4	0				27	25	22	19	15	7								
	20		26	24	21	18	13											
	30	26	24	21	18	12												
	40	23	20	17	11													
	50	20	16	9														
	60	15	8															
	70	6																
	80																	
Shut-off PSI		74	65	57	48	39	31	22	13	5								
1	0						26	25	23	20	18	6						
	20			27	26	24	22	20	18	15	8							
	30		27	26	24	22	19	17	14	7								
	40	27	25	23	21	19	17	13										
	50	25	23	21	19	16	12											
	60	23	21	18	16	11												
	70	20	18	15	10													
	80	18	15	9														
Shut-off PSI		100	91	83	74	65	57	48	40	31	22	1						
1.5	0							27	26	24	21	17	9					
	20						27	25	24	23	21	17	10					
	30					26	25	24	22	21	20	15						
	40				26	25	23	22	21	19	18	11						
	50		27	26	25	23	22	21	19	17	15							
	60	27	26	24	23	22	20	19	17	15	11							
	70	26	24	23	21	20	19	17	14	11	5							
	80	24	23	21	20	18	16	14	10									
Shut-off PSI		156	147	138	130	121	112	104	95	86	78	56	34	13				
2	0								27	27	24	21	17	12				
	20							27	26	25	24	21	18	13				
	30						27	26	25	24	23	19	16	9				
	40					27	26	25	24	23	21	18	13					
	50				27	26	25	24	22	21	20	16	10					
	60		27	27	26	25	23	22	21	19	18	14	5					
	70	27	27	26	24	23	22	21	19	18	16	10						
	80	26	25	24	23	22	20	19	18	16	14	6						
Shut-off PSI		187	178	170	161	153	144	135	127	118	109	88	66	44	23			

Notes: 1. Performance shown does not include friction loss in the drop pipe. 2. All performance data is based on rated motor nameplate voltage.

# E SERIES ENVIRONMENTAL PUMPS - 20 GPM THERMOPLASTIC

## PERFORMANCE



## E SERIES ENVIRONMENTAL PUMPS - 35 GPM STAINLESS STEEL

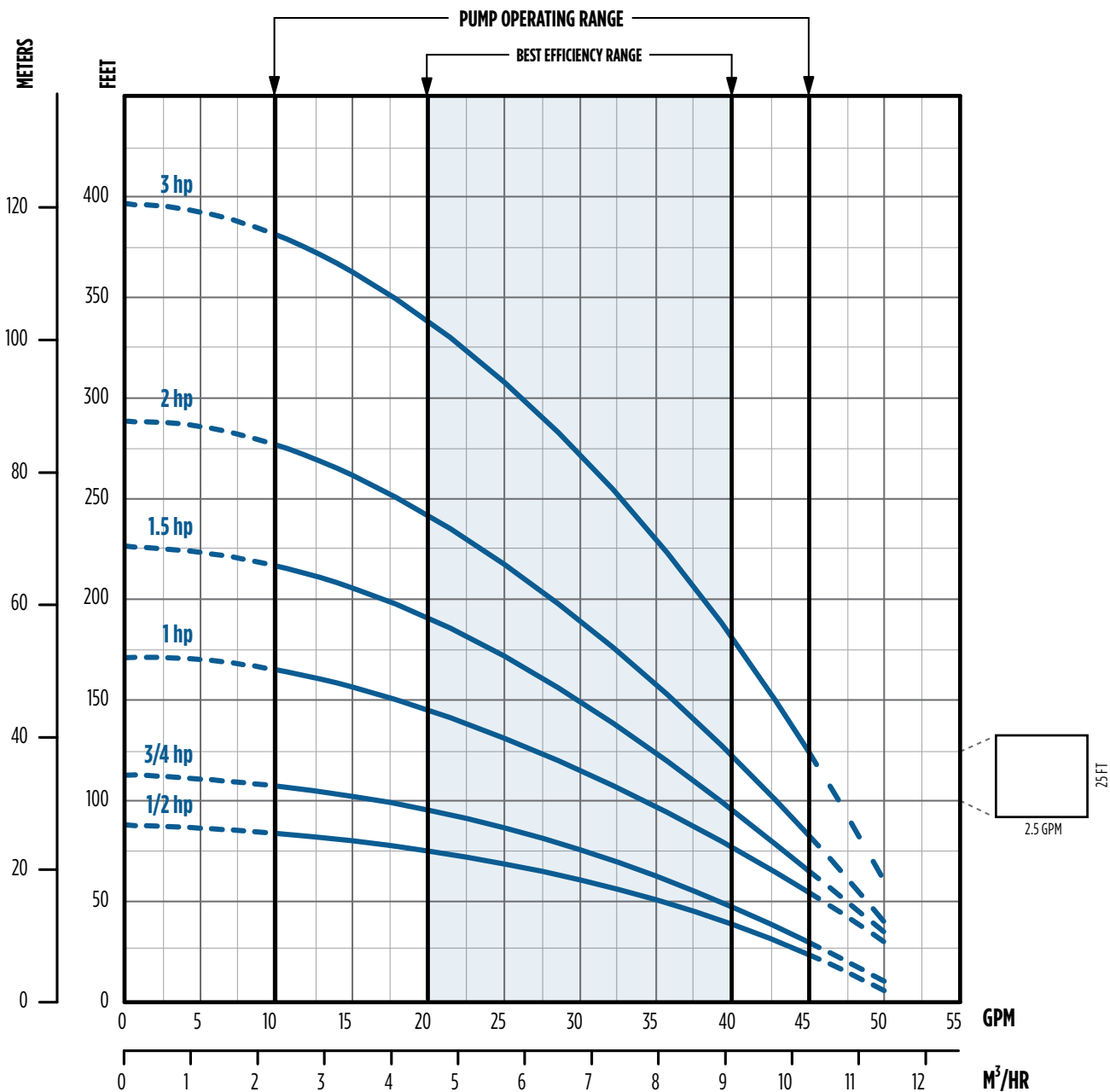
### CAPACITIES IN U.S. GALLONS PER MINUTE

HP	PSI	Depth to Pumping Water Level (Lift) in Feet. Shaded Areas Indicate Most Efficient Performance																	
		20	40	60	80	100	120	140	160	180	200	250	300	350	400	450	500	550	
1/2	0																		
	10	38	29	11															
	20	27																	
	30																		
	40																		
	50																		
Shut-off PSI		29	21	12	3														
3/4	0																		
	10	42	35	27	14														
	20	33	25	11															
	30	24																	
	40																		
	50																		
Shut-off PSI		40	32	23	14	6													
1	0																		
	10			44	40	34	28	22	13										
	20	43	38	32	26	20													
	30	37	31	26	19														
	40	30	25	17															
	50	24	16																
Shut-off PSI		65	57	48	39	31	22	13	5										
1.5	0																		
	10		45	42	39	35	31	27	23	18									
	20	45	42	38	34	30	26	22	15										
	30	41	38	34	30	26	21	13											
	40	37	33	29	25	20	12												
	50	32	28	24	19	10													
	60	28	24	18															
	70	23	17																
Shut-off PSI		89	81	72	63	55	46	37	29	20	11								
2	0																		
	10			45	43	40	37	34	31	27	24	11							
	20		45	42	40	37	33	30	27	24	20								
	30	44	42	39	36	33	30	26	23	19	12								
	40	42	39	36	32	29	26	22	18	11									
	50	38	35	32	29	25	22	17	10										
	60	35	31	28	25	21	16												
	70	31	28	24	21	15													
Shut-off PSI		116	107	99	90	81	73	64	55	47	38	16							
3	0																		
	10					45	44	42	40	38	36	29	23	18					
	20				45	44	42	40	38	35	33	27	19						
	30			45	43	42	39	37	35	32	30	24	13						
	40		45	43	41	39	37	34	32	30	27	20							
	50	44	43	41	39	36	34	32	29	27	24	14							
	60	43	41	38	36	34	31	29	26	24	21								
	70	40	38	36	33	31	28	26	23	20	15								
Shut-off PSI		163	154	145	137	128	119	111	102	94	85	63	42	20					

Notes: 1. Performance shown does not include friction loss in the drop pipe. 2. All performance data is based on rated motor nameplate voltage.

## E SERIES ENVIRONMENTAL PUMPS - 35 GPM STAINLESS STEEL

### PERFORMANCE



# E SERIES ENVIRONMENTAL PUMPS - 45 GPM STAINLESS STEEL

## CAPACITIES IN U.S. GALLONS PER MINUTE

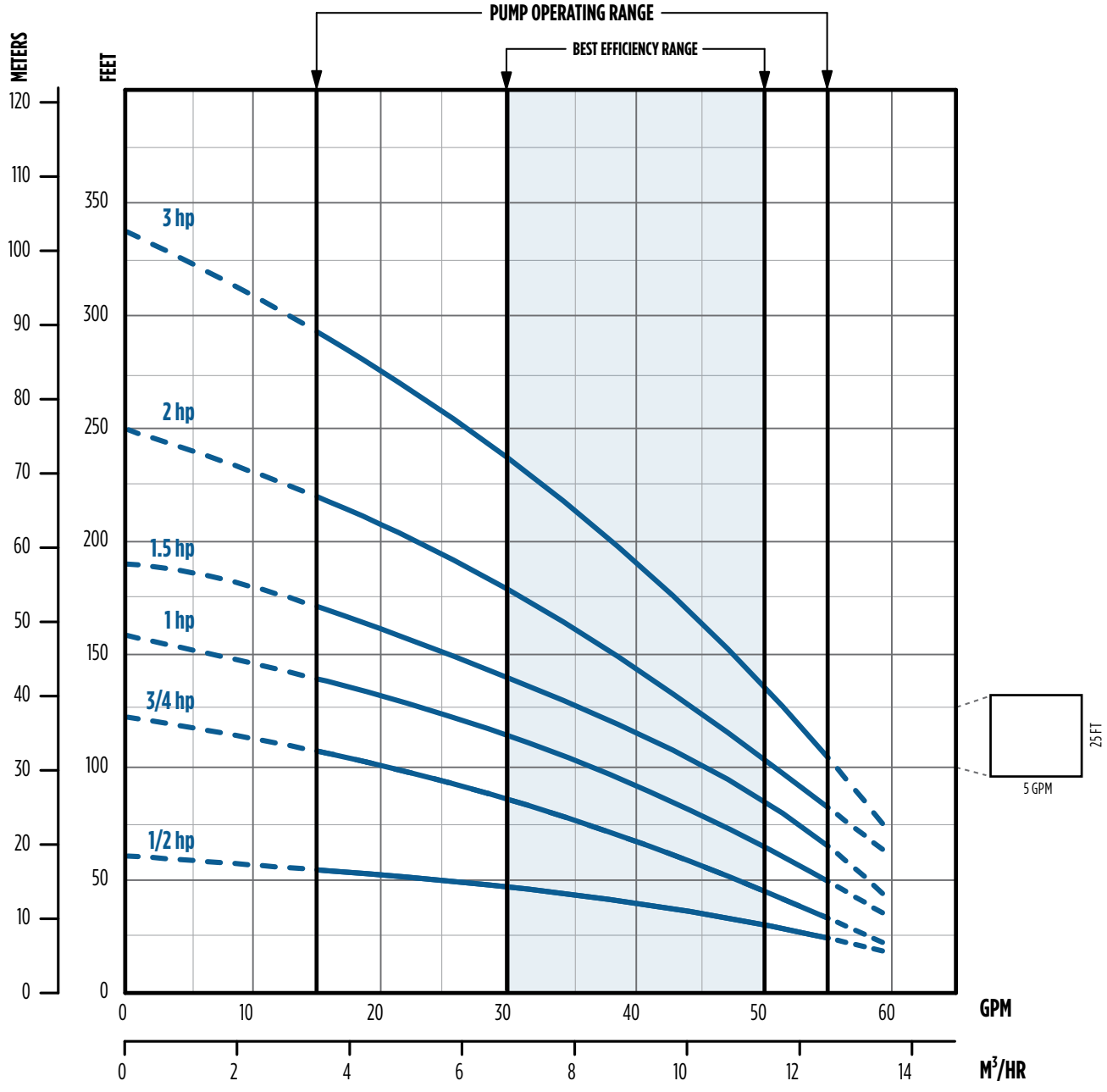
HP	PSI	Depth to Pumping Water Level (Lift) in Feet. Shaded Areas Indicate Most Efficient Performance																
		20	40	60	80	100	120	140	160	180	200	250	300	350	400	450	500	550
1/2	0																	
	10	36	40															
	20																	
	30																	
	40																	
	50																	
Shut-off PSI		18	9															
3/4	0			52	43	33	21											
	10	51	42	32	18													
	20	40	30	16														
	30	28																
	40																	
	50																	
Shut-off PSI		44	36	27	18	10												
1	0			52	45	37	27											
	10		51	43	35	25												
	20	49	42	34	23													
	30	41	32	21														
	40	31	20															
	50	17																
Shut-off PSI		60	51	43	34	25	17											
1.5	0				52	46	38	30	21									
	10		55	51	44	37	28	19										
	20	55	50	43	35	27	18											
	30	49	42	34	26	16												
	40	41	33	24														
	50	32	23															
Shut-off PSI		74	65	56	48	39	30	22	13									
2	0				55	51	46	41	36	30	23							
	10			55	50	45	40	35	29	22								
	20		54	49	44	39	34	28	21									
	30	53	49	44	38	33	27	19										
	40	48	43	38	32	26	18											
	50	42	37	31	24	17												
Shut-off PSI		99	91	82	73	65	56	48	39	30	22							
3	0					56	53	49	46	42	38	27						
	10				55	52	49	45	41	37	33	21						
	20			55	52	48	45	41	37	32	28							
	30		54	51	48	44	40	36	32	27	22							
	40	54	51	47	44	40	35	31	26	21	15							
	50	50	47	43	39	35	30	25	20									
	60	46	42	38	34	30	25	19										
	70	42	38	33	29	24	18											
	80	37	33	28	23	17												
	90	32	27	22	16													
	100	27	21	16														
Shut-off PSI		137	129	120	111	103	94	85	77	68	59	38						

Notes: 1. Performance shown does not include friction loss in the drop pipe. 2. All performance data is based on rated motor nameplate voltage.



E SERIES ENVIRONMENTAL PUMPS - 45 GPM STAINLESS STEEL

PERFORMANCE



## E SERIES ENVIRONMENTAL PUMPS - 60 GPM STAINLESS STEEL

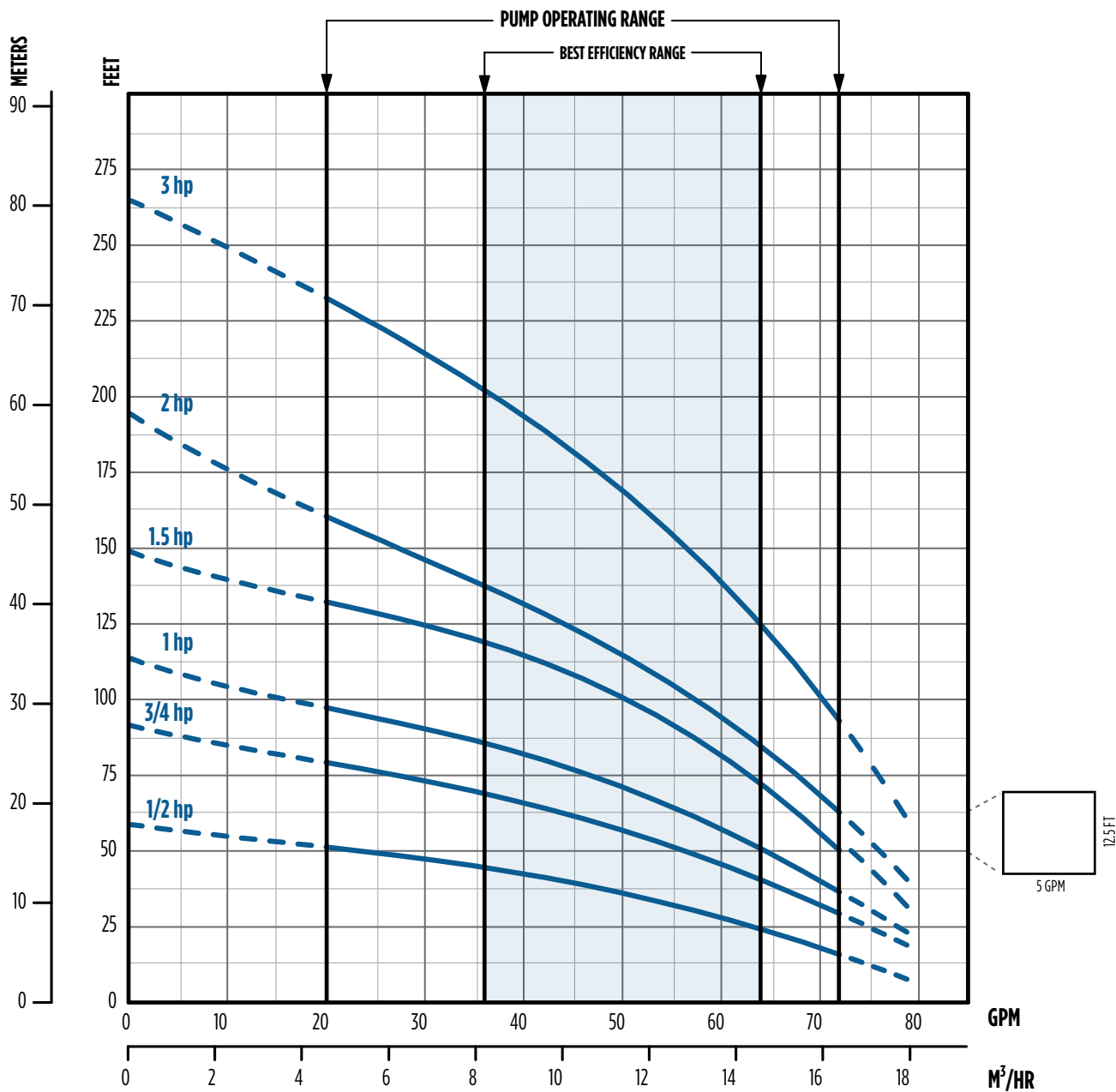
### CAPACITIES IN U.S. GALLONS PER MINUTE

HP	PSI	Depth to Pumping Water Level (Lift) in Feet. Shaded Areas Indicate Most Efficient Performance																	
		20	40	60	80	100	120	140	160	180	200	250	300	350	400	450	500	550	
1/2	0	68	44																
	10	39																	
	20																		
	30																		
	40																		
	50																		
Shut-off PSI		17	8																
3/4	0		64	47															
	10	62	43																
	20	40																	
	30																		
	40																		
	50																		
Shut-off PSI		31	22	14															
1	0		70	58	42														
	10	68	56	39															
	20	54	35																
	30	31																	
	40																		
	50																		
Shut-off PSI		41	32	23	15														
1.5	0			69	61	51	34												
	10			67	59	49	31												
	20	66	58	47	27														
	30	57	44	24															
	40	42	20																
	50																		
Shut-off PSI		56	47	39	30	21	13												
2	0			72	65	66	57	47	34	21									
	10			72	65	56	45	32											
	20	71	64	54	43	30													
	30	62	53	41	28														
	40	51	39	26															
	50	37	24																
60	22																		
Shut-off PSI		76	67	58	50	41	32	24	15										
3	0				70	70	65	60	53	46	37								
	10				70	64	59	52	45	36	25								
	20				69	64	58	51	43	34	24								
	30			68	63	57	50	42	33	22									
	40	67	62	56	49	41	31	20											
	50	61	55	48	39	29													
60	54	46	38	28															
Shut-off PSI		106	98	89	80	72	63	54	46	37	28								

Notes: 1. Performance shown does not include friction loss in the drop pipe. 2. All performance data is based on rated motor nameplate voltage.

# E SERIES ENVIRONMENTAL PUMPS - 60 GPM STAINLESS STEEL

## PERFORMANCE



## E SERIES ENVIRONMENTAL PUMPS - 90 GPM STAINLESS STEEL

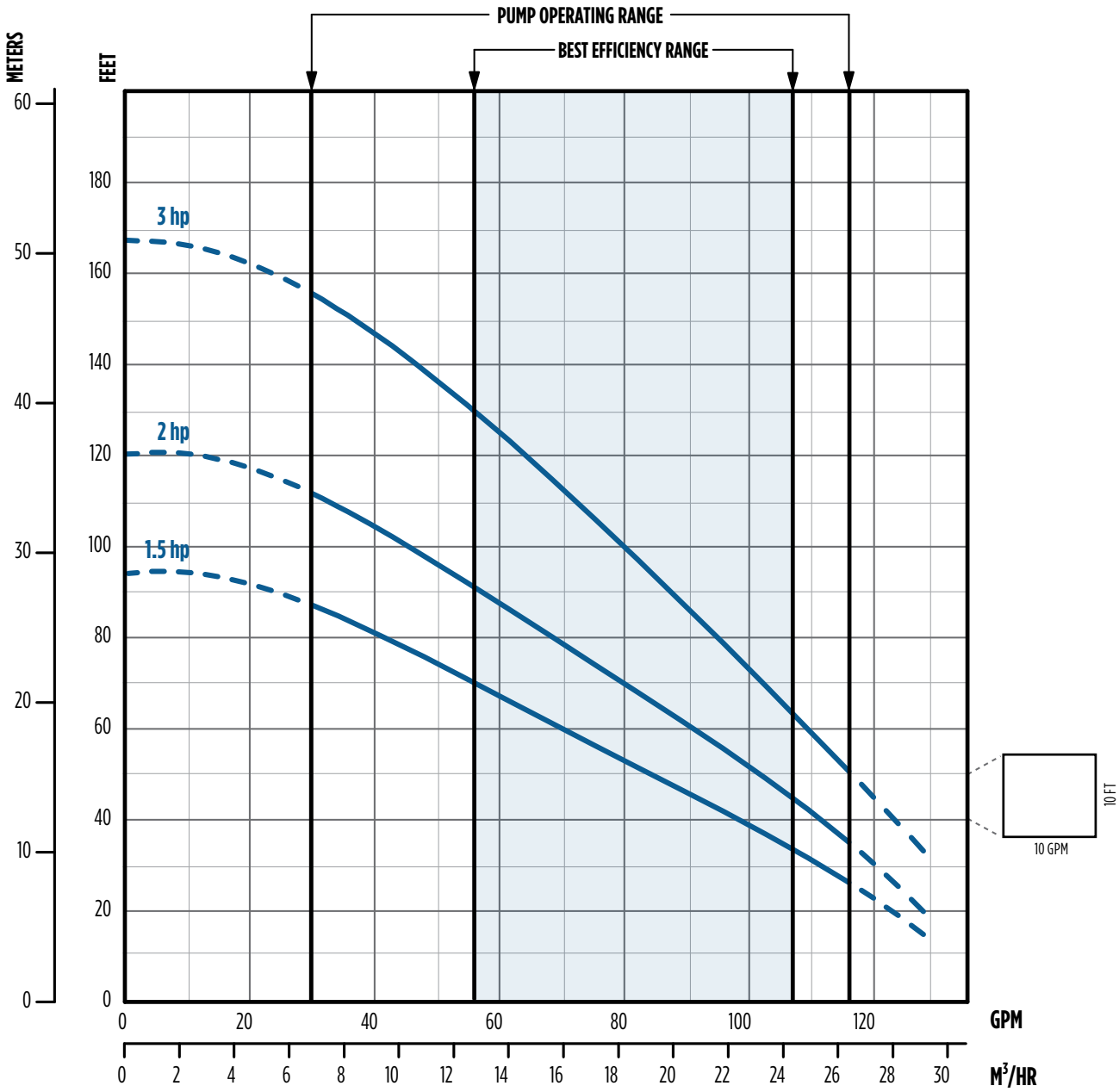
### CAPACITIES IN U.S. GALLONS PER MINUTE

HP	PSI	Depth to Pumping Water Level (Lift) in Feet. Shaded Areas Indicate Most Efficient Performance																		
		20	40	60	80	100	120	140	160	180	200	250	300	350	400	450	500	550		
1.5	0		99	69	43														Shut-off 95ft	
	10	94	65	38																
	20	61	32																	
	30																			
	40																			
	50																			
Shut-off PSI		52	24	15	6															
2	0		112	91	68	47													Shut-off 121ft	
	10	109	88	65	43															
	20	84	61	39																
	30	58	34																	
	40																			
	50																			
Shut-off PSI		44	35	26	18	9														
3	0			110	96	79	64	48											Shut-off 167ft	
	10		108	93	77	61	45													
	20	106	91	74	59	42														
	30	88	72	57	38															
	40	69	54	34																
	50	52	30																	
Shut-off PSI		64	55	46	38	29	20	12												

**Notes:** 1. Performance shown does not include friction loss in the drop pipe. 2. All performance data is based on rated motor nameplate voltage.

E SERIES ENVIRONMENTAL PUMPS - 90 GPM STAINLESS STEEL

PERFORMANCE



## C1 SERIES CISTERN PUMPS

Designed for use in gray water / filtered effluent service applications, the C1 Series cistern pump provides high performance and long life in less than ideal water conditions. The C1 Series pump is able to pass solids up to 1/8" without having a negative effect on the internal hydraulic components.

The pump's unique bottom suction design allows for maximum fluid drawdown without compromising durability or overall life, and it does not require the use of a flow induction sleeve. Intended specifically for use in a cistern or tank, C1 Series pumps are suitable for use in agricultural, residential, and commercial installations.

### APPLICATIONS

- Gray water pumping
- Filtered effluent service water pumping
- Water reclamation projects such as pumping from rain catchment basins
- Aeration and other fountain or pond applications
- Agriculture and livestock water pumping

### FEATURES

- Supplied with a removable 5" base for secure and reliable mounting
- Bottom suction design
- Robust thermoplastic discharge head design resists breakage during installation and operation
- Single shell housing design provides a compact unit while ensuring cool and quiet operation
- Hydraulic components molded from high quality engineered thermoplastics
- Optimized hydraulic design allows for increased performance and decreased power usage
- All metal components are made of high grade stainless steel for corrosion resistance
- Available with a high quality 115 V or 230 V, 1/2 hp motor
- Fluid flows of 10, 20, and 30 gpm, with a maximum shut-off pressure of 100 psi
- Heavy-duty 600 V 10 foot SJ00W jacketed lead



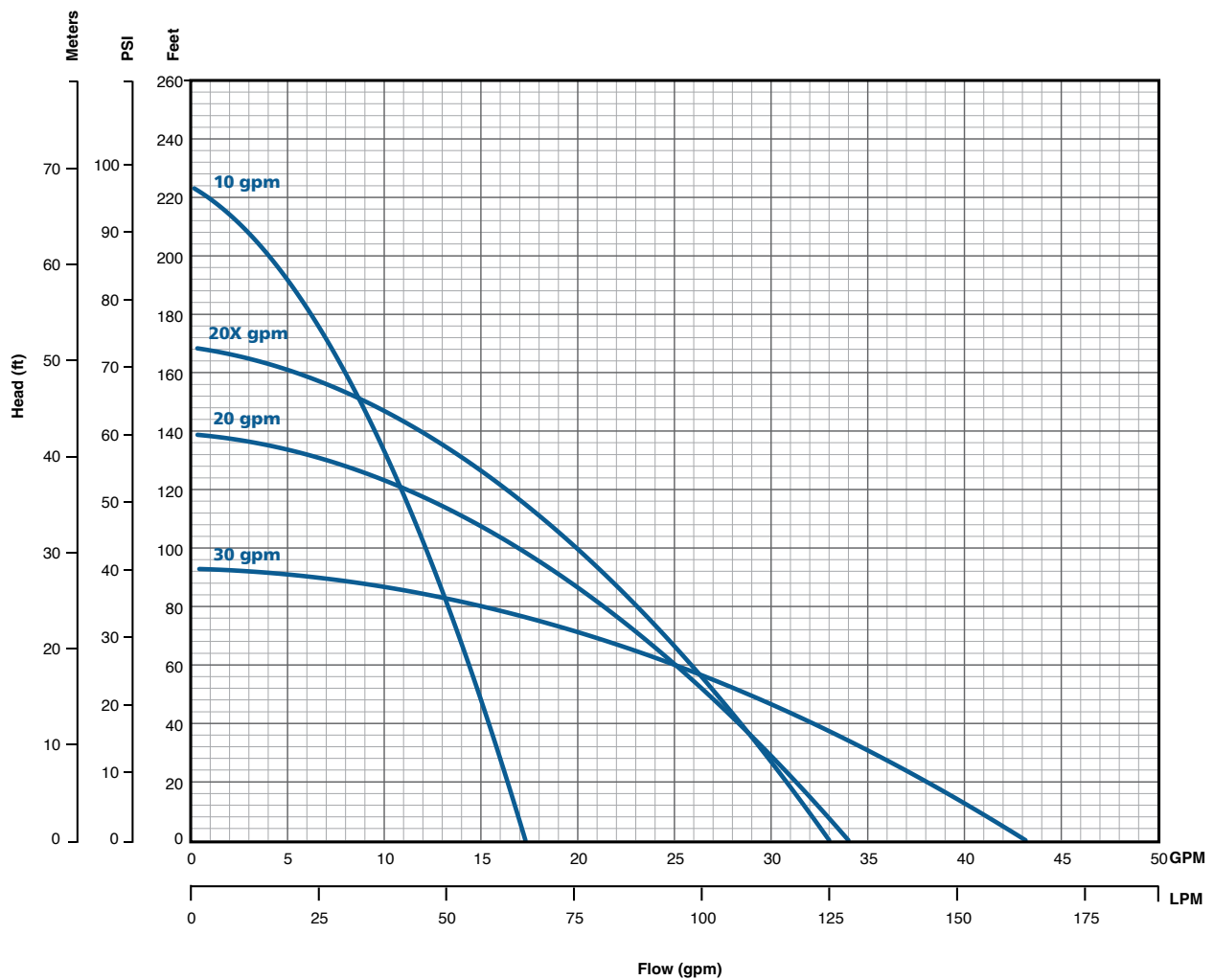
## C1 SERIES CISTERN PUMPS - ORDERING INFORMATION

### ORDERING INFORMATION

FPS C1 Series Pumps							
GPM	HP	Volts	Stage	Model	Order	Length (in.)	Weight (lbs.)
10	1/2	115	7	10C1-05P4-2W115	90301005	26	17
		230	7	10C1-05P4-2W230	90301010	26	17
20		115	5	20C1-05P4-2W115	90302005	25	16
		230	5	20C1-05P4-2W230	90302010	25	16
20X		115	6	20XC1-05P4-2W115	90302015	26	17
		230	6	20XC1-05P4-2W230	90302020	26	17
30		115	4	30C1-05P4-2W115	90303005	25	16
		230	4	30C1-05P4-2W230	90303010	25	16

Notes: All units have 10 foot long SJ00W leads.

### PERFORMANCE





## SUBMERSIBLE PUMP ACCESSORIES

Check Valves - Silicone Bronze					
Description	Inlet	Outlet	Case Qty.	Order	Weight (lbs.)
Flomatic™ 4221LEB	1-1/4" MNPT	1" FNPT	36	91980631	1.25
Flomatic™ 4242LEB	1-1/4" MNPT	1-1/4" FNPT	36	91980649	1.75

Check Valves - Stainless Steel					
Description	Inlet	Outlet	Case Qty.	Order	Weight (lbs.)
Flomatic™ #4221LSS2	1-1/4" MNPT	1" FNPT	49	91985317	1.4
Flomatic™ #4242SS2	1-1/4" MNPT	1-1/4" FNPT	49	91985309	1.5

Check Valves - Ductile Iron					
Description	Inlet	Outlet	Carton Qty.	Order	Weight (lbs.)
Simmons #658SB	2" MNPT	2" FNPT	1	91982157	3.5
Simmons #660SB	3" MNPT	3" FNPT	1	91981266	10
Simmons #661SB	4" MNPT	4" FNPT	1	91980334	21

Flomatic™ Poppet with Removable Ring (Patent Pending)		
Description	Order	Weight (lbs.)
Flomatic™ Poppet with Removable Ring (Patent Pending)	91985259R	0.1
T-Handle Poppet Wrench	23498207	1

Reducer Bushing					
Description	Inlet	Outlet	PSI Rating	Order	Weight (lbs.)
White PVC Bushing	1-1/4" MNPT	1" FNPT	200 PSI	31031008R	0.2

**Notes:** Flomatic™ is a trademark of the Danfoss Corporation.

## REFERENCES - FRICTION LOSS

### PVC SCHEDULE 80 IPS PLASTIC PIPE IN FEET PER 100 FEET OF PIPE

Pipe Size	1/2"		3/4"		1"		1-1/4"		1.5"		2"		2.5"		3"		4"		6"		
	GPM	Head Loss	Vel (ft/s)	Head Loss	Vel (ft/s)	Head Loss	Vel (ft/s)	Head Loss	Vel (ft/s)	Head Loss	Vel (ft/s)	Head Loss	Vel (ft/s)	Head Loss	Vel (ft/s)	Head Loss	Vel (ft/s)	Head Loss	Vel (ft/s)	Head Loss	Vel (ft/s)
1		1.87	1.37	0.42	0.74	0.12	0.45	0.03	0.25	0.01	0.18										
2		6.74	2.74	1.52	1.48	0.44	0.89	0.11	0.50	0.05	0.36	0.01	0.22								
3		14.29	4.11	3.21	2.23	0.93	1.34	0.23	0.75	0.10	0.54	0.03	0.33	0.01	0.23						
4		24.34	5.48	5.47	2.97	1.59	1.78	0.39	1.00	0.18	0.73	0.05	0.43	0.02	0.30						
5		36.79	6.85	8.27	3.71	2.40	2.23	0.59	1.25	0.27	0.91	0.08	0.54	0.03	0.38	0.01	0.24				
6		51.57	8.22	11.59	4.45	3.36	2.68	0.82	1.50	0.38	1.09	0.11	0.65	0.04	0.45	0.02	0.29				
7		68.61	9.59	15.43	5.19	4.47	3.12	1.09	1.75	0.50	1.27	0.14	0.76	0.06	0.53	0.02	0.34				
8		87.86	10.96	19.75	5.94	5.73	3.57	1.40	2.00	0.64	1.45	0.18	0.87	0.08	0.61	0.03	0.39				
9		109.27	12.33	24.57	6.68	7.12	4.01	1.74	2.25	0.80	1.63	0.23	0.98	0.01	0.68	0.03	0.44				
10		132.82	13.70	29.86	7.42	8.66	4.46	2.12	2.50	0.97	1.82	0.28	1.09	0.12	0.76	0.04	0.49				
11				35.63	8.16	10.33	4.91	2.53	2.75	1.16	2.00	0.33	1.20	0.14	0.83	0.05	0.53				
12				41.86	8.90	12.14	5.35	2.97	3.00	1.36	2.18	0.39	1.30	0.16	0.91	0.06	0.58				
14				55.69	10.39	16.15	6.24	3.95	3.50	1.81	2.54	0.52	1.52	0.22	1.06	0.07	0.68				
16				71.31	11.87	20.68	7.14	5.06	4.00	2.32	2.90	0.67	1.74	0.28	1.21	0.09	0.78				
18				88.69	13.36	25.72	8.03	6.30	4.50	2.89	3.27	0.83	1.96	0.34	1.36	0.12	0.87				
20				107.80	14.84	31.26	8.92	7.65	5.00	3.51	3.63	1.01	2.17	0.42	1.51	0.14	0.97	0.04	0.56		
22						37.29	9.81	9.13	5.50	4.19	3.99	1.20	2.39	0.50	1.67	0.17	1.07	0.04	0.61		
24						43.81	10.70	10.72	6.00	4.92	4.36	1.41	2.61	0.59	1.82	0.20	1.17	0.05	0.67		
26						50.81	11.60	12.44	6.50	5.71	4.72	1.64	2.83	0.68	1.97	0.23	1.26	0.06	0.73		
28						58.29	12.49	14.27	7.00	6.55	5.08	1.88	3.04	0.78	2.12	0.26	1.36	0.07	0.78		
30						66.23	13.38	16.21	7.50	7.44	5.45	2.13	3.26	0.89	2.27	0.30	1.46	0.08	0.84		
35								21.57	8.75	9.89	6.35	2.84	3.80	1.18	2.65	0.40	1.70	0.10	0.98		
40								27.62	10.00	12.67	7.26	3.63	4.35	1.51	3.03	0.51	1.94	0.13	1.12		
45								34.36	11.25	15.76	8.17	4.52	4.89	1.88	3.41	0.64	2.19	0.17	1.26		
50								41.76	12.51	19.16	9.08	5.49	5.44	2.28	3.78	0.77	2.43	0.20	1.40	0.03	0.62
55								49.82	13.76	22.85	9.99	6.55	5.98	2.72	4.16	0.92	2.67	0.24	1.53	0.03	0.68
60								58.53	15.01	26.85	10.89	7.70	6.52	3.20	4.54	1.09	2.91	0.28	1.67	0.04	0.74
65										31.14	11.80	8.93	7.07	3.71	4.92	1.26	3.16	0.33	1.81	0.04	0.80
70										35.72	12.71	10.24	7.61	4.25	5.30	1.45	3.40	0.38	1.95	0.05	0.86
75										40.59	13.62	11.64	8.15	4.83	5.68	1.64	3.64	0.43	2.09	0.06	0.92
80										45.74	14.52	13.12	8.70	5.45	6.06	1.85	3.89	0.48	2.23	0.07	0.98
85										51.18	15.43	14.68	9.24	6.09	6.43	2.07	4.13	0.54	2.37	0.07	1.05
90										56.89	16.34	16.32	9.78	6.77	6.81	2.30	4.37	0.60	2.51	0.08	1.11
95										62.88	17.25	18.03	10.33	7.49	7.19	2.54	4.61	0.66	2.65	0.09	1.17
100										69.15	18.16	19.83	10.87	8.23	7.57	2.80	4.86	0.73	2.79	0.01	1.23
125												29.98	13.59	12.45	9.46	4.23	6.07	1.01	3.49	0.15	1.54
150												42.02	16.31	17.45	11.35	5.93	7.29	1.54	4.19	0.21	1.85
175														23.21	13.25	7.89	8.50	2.05	4.88	0.28	2.15

Notes: Suction velocities should not exceed 8 feet per second. Calculated using Williams and Hazen formula using C = 150.

## REFERENCES - FRICTION LOSS

### WATER IN FEET PER 100 FEET OF STEEL PIPE

GPM	Pipe Size 1/2"			Pipe Size 3/4"			Pipe Size 1"			Pipe Size 1-1/4"			Pipe Size 1-1/2"		
	Actual size 0.622			Actual size 0.824			Actual size 1.049			Actual size 1.38			Actual size 1.61		
	Friction	Vel (ft/sec)	Vel Head (ft)	Friction	Vel (ft/sec)	Vel Head (ft)	Friction	Vel (ft/sec)	Vel Head (ft)	Friction	Vel (ft/sec)	Vel Head (ft)	Friction	Vel (ft/sec)	Vel Head (ft)
1	2.099	1.056	0.017	0.534	0.602	0.006	0.165	0.371	0.002	0.043	0.215	0.001	0.021	0.158	0.000
2	7.577	2.112	0.069	1.929	1.203	0.023	0.596	0.742	0.009	0.157	0.429	0.003	0.074	0.315	0.002
3	16.056	3.168	0.156	4.087	1.805	0.051	1.263	1.114	0.019	0.332	0.644	0.006	0.157	0.473	0.003
4	27.354	4.223	0.277	6.962	2.407	0.090	2.151	1.485	0.034	0.566	0.858	0.011	0.268	0.630	0.006
5	41.352	5.279	0.433	10.525	3.008	0.141	3.252	1.856	0.054	0.856	1.073	0.018	0.404	0.788	0.011
6	57.961	6.335	0.624	14.753	3.610	0.203	4.558	2.227	0.077	1.200	1.287	0.026	0.567	0.946	0.014
7	77.112	7.391	0.849	19.628	4.211	0.276	6.064	2.599	0.105	1.597	1.502	0.035	0.754	1.103	0.019
8	98.747	8.447	1.109	25.134	4.813	0.360	7.765	2.970	0.137	2.045	1.716	0.046	0.966	1.261	0.025
9	122.817	9.503	1.404	31.261	5.415	0.456	9.657	3.341	0.173	2.543	1.931	0.058	1.201	1.418	0.031
10	149.280	10.559	1.733	37.997	6.016	0.563	11.738	3.712	0.214	3.091	2.145	0.072	1.460	1.576	0.039
11	178.099	11.615	2.097	45.332	6.618	0.681	14.004	4.083	0.259	3.688	2.360	0.087	1.742	1.734	0.047
12	209.241	12.670	2.495	53.259	7.220	0.810	16.453	4.455	0.308	4.333	2.574	0.103	2.047	1.891	0.056
13	242.675	13.726	2.928	61.769	7.821	0.951	19.082	4.826	0.362	5.025	2.789	0.121	2.374	2.049	0.065
14	278.376	14.782	3.396	70.856	8.423	1.103	21.889	5.197	0.420	5.764	3.003	0.140	2.723	2.206	0.076
15	316.317	15.838	3.899	80.513	9.025	1.266	24.873	5.568	0.482	6.550	3.218	0.161	3.094	2.364	0.087
16				90.735	9.626	1.440	28.031	5.940	0.548	7.381	3.432	0.183	3.487	2.521	0.099
17				101.517	10.228	1.626	31.362	6.311	0.619	8.258	3.647	0.207	3.901	2.679	0.112
18				112.852	10.829	1.823	34.863	6.682	0.694	9.181	3.861	0.232	4.337	2.837	0.125
19				124.738	11.431	2.031	38.535	7.053	0.773	10.148	4.076	0.258	4.793	2.994	0.139
20				137.168	12.033	2.250	42.375	7.425	0.857	11.159	4.290	0.286	5.271	3.152	0.154
21				150.140	12.634	2.481	46.383	7.796	0.945	12.214	4.505	0.315	5.769	3.309	0.170
22				163.649	13.236	2.723	50.556	8.167	1.037	13.313	4.719	0.346	6.288	3.467	0.187
23				177.691	13.838	2.976	54.894	8.538	1.133	14.455	4.934	0.378	6.828	3.625	0.204
24				192.263	14.439	3.241	59.396	8.909	1.234	15.641	5.148	0.412	7.388	3.782	0.222
25				207.363	15.041	3.516	64.061	9.281	1.339	16.869	5.363	0.447	7.968	3.940	0.241
26				222.985	15.643	3.803	68.887	9.652	1.448	18.140	5.577	0.483	8.569	4.097	0.261
27				239.128	16.244	4.101	73.874	10.023	1.561	19.453	5.792	0.521	9.189	4.255	0.281
28				255.789	16.846	4.411	79.021	10.394	1.679	20.809	6.006	0.561	9.829	4.413	0.303
29				272.965	17.448	4.731	84.327	10.766	1.801	22.206	6.221	0.601	10.489	4.570	0.325
30				290.652	18.049	5.063	89.791	11.137	1.928	23.645	6.435	0.644	11.169	4.728	0.347
32							101.191	11.879	2.193	26.647	6.864	0.732	12.587	5.043	0.395
34							113.215	12.622	2.476	29.813	7.293	0.827	14.082	5.358	0.446
36							125.857	13.364	2.776	33.142	7.722	0.927	15.655	5.673	0.500
38							139.112	14.107	3.093	36.633	8.151	1.033	17.304	5.989	0.557
40							152.975	14.849	3.427	40.283	8.580	1.144	19.028	6.304	0.618
42							167.442	15.592	3.778	44.093	9.009	1.261	20.827	6.619	0.681
44							182.507	16.334	4.147	48.060	9.438	1.384	22.701	6.934	0.747
46							198.168	17.076	4.532	52.184	9.867	1.513	24.649	7.249	0.817
48							214.420	17.819	4.935	56.463	10.296	1.648	26.671	7.564	0.889
50							231.259	18.561	5.355	60.898	10.725	1.788	28.765	7.880	0.965
55							275.904	20.417	6.479	72.654	11.798	2.163	34.319	8.668	1.168
60							324.147	22.274	7.711	85.358	12.870	2.574	40.319	9.456	1.390
65							375.943	24.130	9.049	98.997	13.943	3.021	46.762	10.244	1.631
70							431.249	25.986	10.495	113.561	15.015	3.504	53.641	11.032	1.891
75							490.027	27.842	12.048	129.039	16.088	4.023	60.952	11.820	2.171
80							552.241	29.698	13.708	145.422	17.160	4.577	68.691	12.607	2.470
85							617.860	31.554	15.475	162.701	18.233	5.167	76.853	13.395	2.789
90							686.852	33.410	17.349	180.869	19.305	5.793	85.435	14.183	3.127
95							759.190	35.267	19.331	199.918	20.378	6.454	94.433	14.971	3.484
100							834.846	37.123	21.419	219.840	21.450	7.151	103.843	15.759	3.860
110										262.281	23.595	8.653	123.890	17.335	4.671
120										308.142	25.740	10.298	145.553	18.911	5.559
130										357.380	27.885	12.086	168.811	20.487	6.524
140										409.955	30.030	14.016	193.645	22.063	7.566
150										465.831	32.175	16.090	220.039	23.639	8.685

Notes: Suction velocities should not exceed 8 feet per second.

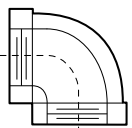
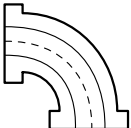
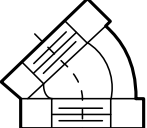
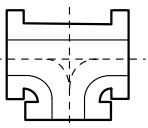

## REFERENCES - FRICTION LOSS

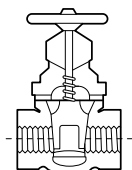
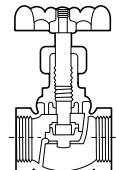
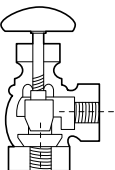
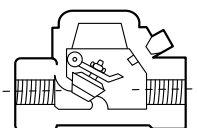
### WATER IN FEET PER 100 FEET OF STEEL PIPE

GPM	Pipe Size 2"			Pipe Size 2.5"			Pipe Size 3"			Pipe Size 3.5"		
	Actual size 2.067			Actual size 2.469			Actual size 3.068			Actual size 3.548		
	Friction	Vel (ft/sec)	Vel Head (ft)	Friction	Vel (ft/sec)	Vel Head (ft)	Friction	Vel (ft/sec)	Vel Head (ft)	Friction	Vel (ft/sec)	Vel Head (ft)
2	0.022	0.191	0.001									
3	0.047	0.287	0.001	0.020	0.201	0.001						
4	0.079	0.383	0.002	0.033	0.268	0.001						
5	0.120	0.478	0.004	0.051	0.335	0.002	0.018	0.217	0.001	0.009	0.162	0.000
6	0.168	0.574	0.005	0.071	0.402	0.003	0.025	0.260	0.001	0.012	0.195	0.001
7	0.224	0.670	0.007	0.094	0.469	0.003	0.033	0.304	0.001	0.016	0.227	0.001
8	0.286	0.765	0.009	0.121	0.536	0.004	0.042	0.347	0.002	0.021	0.260	0.001
9	0.356	0.861	0.012	0.150	0.603	0.006	0.052	0.391	0.002	0.026	0.292	0.001
10	0.433	0.957	0.014	0.182	0.670	0.007	0.063	0.434	0.003	0.031	0.325	0.002
11	0.516	1.052	0.017	0.218	0.737	0.008	0.076	0.477	0.004	0.037	0.357	0.002
12	0.607	1.148	0.020	0.256	0.804	0.010	0.089	0.521	0.004	0.044	0.389	0.002
13	0.704	1.244	0.024	0.296	0.871	0.012	0.103	0.564	0.005	0.051	0.422	0.003
14	0.807	1.339	0.028	0.340	0.938	0.014	0.118	0.608	0.006	0.058	0.454	0.003
15	0.917	1.435	0.032	0.386	1.005	0.016	0.134	0.651	0.007	0.066	0.487	0.004
16	1.034	1.531	0.036	0.435	1.072	0.018	0.151	0.694	0.007	0.075	0.519	0.004
17	1.157	1.626	0.041	0.487	1.139	0.020	0.169	0.738	0.008	0.083	0.552	0.005
18	1.286	1.722	0.046	0.542	1.206	0.023	0.188	0.781	0.009	0.093	0.584	0.005
19	1.421	1.818	0.051	0.599	1.273	0.025	0.208	0.825	0.011	0.103	0.617	0.006
20	1.563	1.913	0.057	0.658	1.340	0.028	0.229	0.868	0.012	0.113	0.649	0.007
21	1.711	2.009	0.063	0.720	1.407	0.031	0.250	0.911	0.013	0.123	0.681	0.007
22	1.865	2.105	0.069	0.785	1.474	0.034	0.273	0.955	0.014	0.135	0.714	0.008
23	2.025	2.200	0.075	0.853	1.541	0.037	0.296	0.998	0.015	0.146	0.746	0.009
24	2.191	2.296	0.082	0.923	1.608	0.040	0.321	1.042	0.017	0.158	0.779	0.009
25	2.363	2.391	0.089	0.995	1.675	0.044	0.346	1.085	0.018	0.171	0.811	0.010
26	2.541	2.487	0.096	1.070	1.742	0.047	0.372	1.128	0.020	0.183	0.844	0.011
27	2.724	2.583	0.104	1.148	1.809	0.051	0.399	1.172	0.021	0.197	0.876	0.012
28	2.914	2.678	0.112	1.227	1.876	0.055	0.427	1.215	0.023	0.210	0.909	0.013
29	3.110	2.774	0.120	1.310	1.943	0.059	0.455	1.259	0.025	0.224	0.941	0.014
30	3.312	2.870	0.128	1.395	2.010	0.063	0.485	1.302	0.026	0.239	0.974	0.015
32	3.732	3.061	0.146	1.572	2.144	0.071	0.546	1.389	0.030	0.269	1.038	0.017
34	4.175	3.252	0.164	1.759	2.278	0.081	0.611	1.476	0.034	0.301	1.103	0.019
36	4.642	3.444	0.184	1.955	2.412	0.090	0.679	1.562	0.038	0.335	1.168	0.021
38	5.130	3.635	0.205	2.161	2.546	0.101	0.751	1.649	0.042	0.370	1.233	0.024
40	5.642	3.826	0.228	2.376	2.680	0.112	0.826	1.736	0.047	0.407	1.298	0.026
42	6.175	4.018	0.251	2.601	2.814	0.123	0.904	1.823	0.052	0.446	1.363	0.029
44	6.731	4.209	0.275	2.835	2.948	0.135	0.985	1.910	0.057	0.486	1.428	0.032
46	7.308	4.400	0.301	3.078	3.083	0.148	1.070	1.996	0.062	0.527	1.493	0.035
48	7.908	4.592	0.328	3.331	3.217	0.161	1.158	2.083	0.067	0.571	1.558	0.038
50	8.529	4.783	0.356	3.592	3.351	0.174	1.248	2.170	0.073	0.616	1.623	0.041
55	10.175	5.261	0.430	4.286	3.686	0.211	1.490	2.387	0.089	0.734	1.785	0.050
60	11.955	5.740	0.512	5.035	4.021	0.251	1.750	2.604	0.105	0.863	1.947	0.059
65	13.865	6.218	0.601	5.840	4.356	0.295	2.030	2.821	0.124	1.001	2.109	0.069
70	15.905	6.696	0.697	6.699	4.691	0.342	2.328	3.038	0.143	1.148	2.272	0.080
75	18.072	7.174	0.800	7.612	5.026	0.393	2.646	3.255	0.165	1.304	2.434	0.092
80	20.367	7.653	0.910	8.578	5.361	0.447	2.981	3.472	0.187	1.470	2.596	0.105
85	22.787	8.131	1.028	9.598	5.696	0.504	3.336	3.689	0.212	1.644	2.758	0.118
90	25.331	8.609	1.152	10.669	6.031	0.565	3.708	3.906	0.237	1.828	2.921	0.133
95	27.999	9.088	1.284	11.793	6.366	0.630	4.099	4.123	0.264	2.021	3.083	0.148
100	30.789	9.566	1.422	12.968	6.701	0.698	4.507	4.340	0.293	2.222	3.245	0.164
110	36.733	10.523	1.721	15.472	7.371	0.845	5.377	4.774	0.354	2.651	3.570	0.198
120	43.156	11.479	2.048	18.177	8.041	1.005	6.317	5.208	0.422	3.114	3.894	0.236
130	50.052	12.436	2.404	21.081	8.711	1.180	7.327	5.642	0.495	3.612	4.219	0.277
140	57.416	13.392	2.788	24.183	9.382	1.368	8.405	6.076	0.574	4.144	4.543	0.321
150	65.241	14.349	3.200	27.479	10.052	1.570	9.550	6.510	0.659	4.708	4.868	0.368

Notes: Suction velocities should not exceed 8 feet per second.

## REFERENCES - PIPE FITTINGS

Friction Losses in Terms of Equivalent Lengths of Standard Pipe					
Pipe Size	Standard 90 ° Elbow	Long Radius Elbow	45 ° Elbow	Tee	Return Bend
					
1/2"	1.5	1.1	0.77	3.4	3.8
3/4"	2.2	1.4	1	4.5	5
1"	2.7	1.7	1.3	5.8	6.1
1-1/4"	3.7	2.4	1.6	7.8	8.5
1.5"	4.3	2.8	2	9	10
2"	5.5	3.5	2.5	11	13
2.5"	6.5	4.2	3	14	15
3"	8.1	5.1	3.8	17	18
3.5"	9.5	6	4.4	19	21
4"	11	7	5	22	24
4.5"	12	7.9	5.6	24	27
5"	14	8.9	6.1	27	31
6"	16	11	7.7	33	37

Friction Losses in Terms of Equivalent Lengths of Standard Pipe				
Pipe Size	Gate Valve Open	Globe Valve Open	Angle Valve Open	Swing Check Valve
				
1/2"	0.35	16	8.4	4
3/4"	0.47	22	12	5
1"	0.6	27	15	7
1-1/4"	0.8	37	18	9
1.5"	0.95	44	22	11
2"	1.2	57	28	13
2.5"	1.4	66	33	16
3"	1.7	85	42	20
3.5"	2	99	50	
4"	2.3	110	58	26
4.5"	2.6	130	61	
5"	2.9	140	70	33
6"	3.5	160	83	39

## REFERENCES - PRESSURE LOSS

### SWING CHECK VALVES

Flow GPM	Pressure Loss (PSI)					
	Valve Size					
	1/2"	3/4"	1"	1-1/4"	1.5"	2"
2	0.2					
3	.05					
6	1.0	0.3				
8	1.7	0.5				
10	2.6	0.8	0.3			
12	3.6	1.1	0.5			
14	4.8	1.5	0.6			
16		2.0	0.9			
18		2.4	1.0			
20		3.0	1.2	0.4		
22		3.5	1.4	0.5		
24		4.1	1.7	0.6		
26		4.8	2.0	0.7	0.4	
28			2.2	0.8	0.5	
30			2.5	0.9	0.5	
32			2.9	1.1	0.6	
34			3.2	1.2	0.6	
36			3.6	1.3	0.7	
38			3.9	1.5	0.8	
40			4.3	1.6	0.8	0.3
42			4.7	1.7	0.9	0.3
44				1.9	1.0	0.4

Flow GPM	Pressure Loss (PSI)					
	Valve Size					
	1-1/4"	1.5"	2"	2.5"	3"	4"
46	2.1	1.1	0.4			
48	2.2	1.2	0.5			
50	2.4	1.3	0.5			
55	2.9	1.5	0.6			
60	3.4	1.8	0.7			
65	3.9	2.0	0.8			
70	4.5	2.4	0.9	0.4		
75		2.7	1.0	0.5		
80		3.0	1.2	0.6		
90		3.7	1.5	0.7		
100		4.6	1.8	0.9	0.4	
120			2.5	1.2	0.5	
140			3.3	1.6	0.7	

### SWING CHECK VALVES

Flow GPM	Pressure Loss (PSI)									
	Valve Size									
	1/2"	3/4"	1"	1-1/4"	1.5"	2"	2.5"	3"	4"	
1										
2	.01									
5	.06	.02								
8	.16	.05	.02							
10	.24	.08	.03	.01						
15		.17	.06	.02	.01					
20		.31	.11	.03	.02					
30			.24	.07	.04	.01				
40			.43	.13	.07	.02	.01			
50			.67	.21	.11	.04	.02			
60				.30	.15	.05	.03	.01		
80				.54	.28	.10	.05	.02		
100					.43	.15	.07	.03		
120					.62	.22	.10	.04	.02	
140					.85	.30	.14	.06		
160						.40	.18	.07	.03	

## REFERENCES - PRESSURE LOSS

### WATER METERS - AWWA STANDARD

Flow GPM	Pressure Loss						
	Normal Size						
	5/8"	3/4"	1"	1.5"	2"	3"	4"
1	0.2	0.1					
2	0.3	0.2					
3	0.4	0.3					
4	0.6	0.5	0.1				
5	0.9	0.6	0.2				
6	1.3	0.7	0.3				
7	1.8	0.8	0.4				
8	2.3	1.0	0.5				
9	3.0	1.3	0.6				
10	3.7	1.6	0.7				
11	4.4	1.9	0.8				
12	5.1	2.2	0.9				
13	6.1	2.6	1.0				
14	7.2	3.1	1.1				
15	8.3	3.6	1.2				
16	9.4	4.1	1.4	0.4			
17	10.7	4.6	1.6	0.5			
18	12.0	5.2	1.8	0.6			
19	13.4	5.8	2.0	0.7			
20	15.0	6.5	2.2	0.8			
22		7.9	2.8	1.0			
24		9.5	3.4	1.2			
26		11.2	4.0	1.4			
28		13.0	4.6	1.6			
30		15.0	5.3	1.8	0.7		
32			6.0	2.1	0.8		
34			6.9	2.4	0.9		
36			7.8	2.7	1.0		
38			8.7	3.0	1.2		
40			9.6	3.3	1.3		
42			10.6	3.6	1.4		
44			11.7	3.9	1.5		
46			12.8	4.2	1.6		
48			13.9	4.5	1.7		
50			15.0	4.9	1.9		
52				5.3	2.1		
54				5.7	2.2		
56				6.2	2.3		
58				6.7	2.5		
60				7.2	2.7	1.0	
65				8.3	3.2	1.1	
70				9.8	3.7	1.3	
75				11.3	4.3	1.5	
80				12.8	4.9	1.6	0.7
90				16.1	6.2	2.0	0.8
100				20.0	7.8	2.5	0.9
110					9.5	2.9	1.0
120					11.3	3.4	1.2
130					13.0	3.9	1.4
140					15.1	4.5	1.6
150					17.3	5.1	1.8



## REFERENCES - PRESSURE TANK SIZING

### PRESSURE TANK SELECTION CHART - MINIMUM TANK VOLUMES FOR PROPER SYSTEM LIFE

Pump Capacity		Minimum Drawdown	Total Tank Volume (Gallons)								
			Switch Setting (PSI)								
			20-40			30-50			40-60		
GPH	GPM	Gallons	A	B	C	A	B	C	A	B	C
240	4	4	10	15	25	15	15	40	15	15	55
300	5	5	15	15	30	15	20	50	20	20	70
360	6	6	15	20	40	20	20	60	20	25	85
420	7	7	20	20	45	35	25	70	25	30	100
480	8	8	20	25	50	35	25	80	30	30	110
540	9	9	25	25	60	30	30	90	35	35	125
600	10	10	30	30	65	30	35	100	40	40	140
660	11	12	35	35	80	40	40	120	45	45	165
720	12	13	35	40	85	40	45	130	50	50	180
780	13	15	40	45	100	50	50	150	55	60	210
840	14	17	45	50	110	55	55	170	65	65	235
900	15	19	50	55	125	60	65	190	70	75	265
960	16	20	55	55	160	65	65	200	75	75	280
1020	17	23	6	65	150	75	75	230	85	90	320
1080	18	25	70	70	160	80	85	250	95	95	350
1140	19	27	75	75	175	85	90	270	100	105	375
1200	20	30	80	85	195	95	100	300	110	115	415
1260	21	33	90	90	215	105	110	330	125	125	460
1320	22	36	100	100	235	115	120	360	135	135	500
1380	23	38	105	105	345	125	125	380	140	145	530
1440	24	41	110	115	365	135	135	410	155	155	570
1500	25	44	120	120	385	140	145	440	165	165	610
1560	26	47	130	130	305	150	155	470	175	180	655
1620	27	50	135	140	325	160	165	500	185	190	700
1680	28	53	145	145	345	170	175	530	200	200	735
1740	29	57	155	160	370	185	185	570	215	215	790
1800	30	60	165	165	390	195	195	600	225	225	835

Notes: A - Bladder or Diaphragm Tank Design  
 B - Floating Water Tank Design  
 C - Plain Steel Tank Design

## REFERENCES - REFERENCE TABLES

### EQUIVALENT VALUES OF PRESSURE

Inches of Mercury	Feet of Water	PSI
1	1.13	0.49
2	2.26	0.98
3	3.39	1.47
4	4.52	1.95
5	5.65	2.44
6	6.78	2.93
7	7.91	3.42
8	9.04	3.91
9	10.17	4.4
10	11.3	4.89
11	12.45	5.39
12	13.57	5.87
13	14.7	6.37
14	15.82	6.86
15	16.96	7.35
16	18.09	7.84
17	19.22	8.33
18	20.35	8.82
19	21.75	9.31
20	22.6	9.8
21	23.78	10.3
22	24.88	10.8
23	26	11.28
24	27.15	11.75
25	26.26	12.25
26	29.4	12.73
27	30.52	13.23
28	31.65	13.73
29	32.8	14.22
29.929	33.947	14.697

### PROPERTIES OF WATER

Temp. of Water (°F)	Pressure (ft Water)
60	0.59
70	0.84
80	1.17
90	1.61
100	2.19
110	2.94
120	3.91
130	5.14
140	6.67
150	8.58
160	10.9
170	13.8
180	17.3
190	21.6
200	26.6
210	32.6
212	34

### ATMOSPHERIC PRESSURE AT VARIOUS ELEVATIONS

Altitude Feet Above Sea Level	Atmospheric Pressure		
	Pounds per Square Inch (PSI)	Feet of Water	Inches of Mercury
Sea Level	14.7	33.8	29.9
500	14.4	33.3	29.4
1000	14.2	32.6	28.8
2000	13.7	31.4	27.8
3000	13.2	30.3	26.8
4000	12.7	29.2	25.8
5000	12.2	28.2	24.9
6000	11.8	27.1	24
7000	11.3	26.1	23.1
8000	10.9	25.1	22.2
9000	10.5	24.2	21.4
10000	10.1	23.2	20.6

## REFERENCES - CONVERSIONS

### HEAD

To Convert From	To	Multiply By
PSI	Feet	2.31
PSI	Inches of Mercury	2.04
Feet	PSI	0.433
Feet	Meters	0.305
Feet	Inches of Mercury	0.885
Inches of Mercury	Feet of Water	1.132
Meters	Feet	3.28
Kilograms per sq. in.	PSI	14.22
ATM	PSI	14.7
ATM	Feet of Water	34
ATM	Meters of Water	10.35

### VOLUME

To Convert From	To	Multiply By
Gallons	Liters	3.785
Gallons	Cubic Inches	231
Gallons	Cubic Feet	0.137
Gallons	Cubic Meters	0.004
Liters	Gallons	0.264
Barrel (Oil)	Gallons	42
Cubic Feet	Gallons	7.48
Cubic Feet	Cubic Meters	0.028
Acre Foot	Cubic Feet	43560
Acre Foot	Gallons	325829
Acre Inch	Cubic Feet	3630
Acre Inch	Gallons	27100

### CAPACITY

To Convert From	To	Multiply By
Gallons Per Minute	Liters/Sec.	0.063
Gallons Per Minute	Liters/Hr.	227.1
Gallons Per Minute	Cubic Meters/Hr.	0.227
Gallons Per Minute	Cubic Feet/Sec.	0.002
Gallons Per Minute	Pounds Per Hour	500
Cubic Meters/Hr.	Gallons Per Minute	4.402
Cubic Meters/Hr.	Liters/Sec.	0.278
Cubic Feet/Sec.	Gallons Per Minute	448.831
Acre Foot	Gallons	325.85
Acre Foot per Day	Gallons Per Minute	227
Acre Inch per Hour	Gallons Per Minute	454
Litre per Second	Gallons Per Minute	15.85
Miner's Inch (ID,KS,NE, NM,ND,SD,UT,WA)	Gallons Per Minute	9
Miner's Inch (AZ,CA,MT,NV,OR)	Gallons Per Minute	11.22

### HORSEPOWER

To Convert From	To	Multiply By
Hp	Kilowatts	0.746
Hp	Ft. lbs. per minute	33000
Hp	Ft. lbs. per second	550
Kilowatts	H.P.	1.341

### LENGTH

To Convert From	To	Multiply By
Inches	Centimeters	2.54
Meters	Feet	3.28
Miles	Feet	5280
Rods	Feet	16.5

### WEIGHT

To Convert From	To	Multiply By
Gallons	Pounds	8.33
Cubic Feet of Water	Pounds	62.35
Kilograms	Pounds	2.2

### TEMPERATURE

To Convert From	To	Multiply By
Fahrenheit	Celsius	$5/9 \times (°F - 32)$
Celsius	Fahrenheit	$9/5 \times (°C + 32)$

1,000,000 US gal. / day = 695 US gal. / minute

## REFERENCES - 2- OR 3-WIRE CABLE, 60 HZ

### SERVICE ENTRANCE TO MOTOR - MAXIMUM LENGTH IN FEET

MOTOR RATING			60 °C INSULATION - AWG COPPER WIRE SIZE												
VOLTS	HP	KW	14	12	10	8	6	4	3	2	1	0	00	000	0000
115	1/2	.37	100	160	250	390	620	960	1190	1460	1780	2160	2630	3140	3770
	3/4	.55	300	480	760	1200	1870	2890	3580	4370	5330	6470	7870		
230	1	.75	250	400	630	990	1540	2380	2960	3610	4410	5360	6520		
	1.5	1.1	190	310	480	770	1200	1870	2320	2850	3500	4280	5240		
	2	1.5	150	250	390	620	970	1530	1910	2360	2930	3620	4480		
	3	2.2	120	190	300	470	750	1190	1490	1850	2320	2890	3610		
	5	3.7	0	0	180	280	450	710	890	1110	1390	1740	2170	2680	
	7.5	5.5	0	0	0	200	310	490	610	750	930	1140	1410	1720	
	10	7.5	0	0	0	0	250	390	490	600	750	930	1160	1430	1760
	15	11	0	0	0	0	170	270	340	430	530	660	820	1020	1260

MOTOR RATING			75 °C INSULATION - AWG COPPER WIRE SIZE												
VOLTS	HP	KW	14	12	10	8	6	4	3	2	1	0	00	000	0000
115	1/2	.37	100	160	250	390	620	960	1190	1460	1780	2160	2630	3140	3770
	3/4	.55	300	480	760	1200	1870	2890	3580	4370	5330	6470	7870	9380	
230	1	.75	250	400	630	990	1540	2380	2960	3610	4410	5360	6520	7780	9350
	1.5	1.1	190	310	480	770	1200	1870	2320	2850	3500	4280	5240	6300	7620
	2	1.5	150	250	390	620	970	1530	1910	2360	2930	3620	4480	5470	6700
	3	2.2	120	190	300	470	750	1190	1490	1850	2320	2890	3610	4470	5550
	5	3.7	0	110	180	280	450	710	890	1110	1390	1740	2170	2680	3330
	7.5	5.5	0	0	120	200	310	490	610	750	930	1140	1410	1720	2100
	10	7.5	0	0	0	160	250	390	490	600	750	930	1160	1430	1760
	15	11	0	0	0	0	170	270	340	430	530	660	820	1020	1260

1 Foot = .3048 Meter

Lengths in **BOLD** only meet the US National Electrical Code ampacity requirements for individual conductors 60 °C or 75 °C in free air or water, not in magnetic enclosures, conduit or direct buried. Lengths NOT in bold meet the NEC ampacity requirements for either individual conductors or jacketed 60 °C or 75 °C cable and can be in conduit or direct buried. Flat molded and web/ribbon cable are considered jacketed cable. If any other cable is used, the NEC and local codes should be observed.

Cable lengths allow for a 5% voltage drop running at maximum nameplate amperes. If 3% voltage drop is desired, multiply lengths by 0.6 to get maximum cable length. The portion of the total cable length, which is between the supply and single-phase control box with a line contactor, should not exceed 25% of total maximum allowable to ensure reliable contactor operation. Single-phase control boxes without line contactors may be connected at any point in the total cable length.

Values are based on copper wire. If aluminum wire is used, it must be two sizes larger than copper wire and oxidation inhibitors must be used on connections. **EXAMPLE:** #12 copper wire = #10 aluminum wire. Contact Franklin Electric for 90 °C cable lengths.

## WARRANTY INFORMATION

### LIMITED WARRANTY\*

Except as set forth in an Extended Warranty, for twelve (12) months from the date of installation, but in no event more than twenty-four (24) months from the date of manufacture, Franklin hereby warrants to the purchaser ("Purchaser") of Franklin's products that, for the applicable warranty period, the products purchased will (i) be free from defects in workmanship and material at the time of shipment, (ii) perform consistently with samples previously supplied and (iii) conform to the specifications published or agreed to in writing between the purchaser and Franklin. This limited warranty extends only to products purchased directly from Franklin. If a product is purchased other than from a distributor or directly from Franklin, such product must be installed by a Franklin Certified Installer for this limited warranty to apply. This limited warranty is not assignable or transferable to any subsequent purchaser or user.

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- e. Unless otherwise specified in an Extended Warranty authorized by Franklin for a specific product or product line, this limited warranty does not apply to performance caused by abrasive materials, corrosion due to aggressive conditions or improper voltage supply.
- f. With respect to motors and pumps, the following conditions automatically void this limited warranty:
  1. Mud or sand deposits which indicate that the motor has been submerged in mud or sand.
  2. Physical damage as evidenced by bent shaft, broken or chipped castings, or broken or bent thrust parts.
  3. Sand damage as indicated by abrasive wear of motor seals or splines.
  4. Lightning damage (often referred to as high voltage surge damage).
  5. Electrical failures due to the use of non-approved overload protection.
  6. Unauthorized disassembly.

### LOST OR DAMAGED GOODS

Every carrier used by Franklin Electric, Inc. is required to verify and sign for the condition of and the number of pieces that are released to them for delivery. Our control and responsibility for any shipment ceases when the carrier signs the Bill of Lading. When you sign the Bill of Lading, you legally assume responsibility of the shipment being delivered. Please, thoroughly inspect each shipment immediately upon arrival.

If cartons, packages, or crates are received in short or damaged condition, it is important that you notify the driver and insist on a notation of the loss or damage across the face of the freight bill. Failure to do this could negate any opportunity you have to file a claim. Claims for short or damaged material must be filed in writing with the carrier immediately after delivery.

If concealed loss or damage is discovered, notify the carrier at once and request an inspection. It is also important that you do not discard the shipping carton or container. A concealed damage report should be made within ten (10) days of delivery of the shipment. The carrier's agent will make an inspection and usually will grant a concealed damage notation. If you give the carrier a clear receipt for the goods that have been damaged in transit, you do so at your own risk and expense.

Due to frequent damage of heavy UPS shipments, Franklin Electric, Inc. does not ship orders over 75 lbs. by UPS unless customer agrees to take full responsibility.







