

23000 Series

A.Y. McDonald offers a full line of four-inch submersibles ranging from 1/3 through 5 horsepower, with flow rates ranging from 5 through 25 GPM. Our 23000 submersibles offer peak capacity performance in 5, 7, 10, 15, 20, and 25 GPM models.

Powered by NEMA approved A.Y. McDonald stainless steel motors.

The charts on the following page will assist you in choosing the pump that meets your needs.



Submersible Pumps

Discharge

300 Series stainless steel, corrosion resistant, easy wrench design, built in safety eye, threads into shell.



Discharge Bearing

Rubber surrounding the stainless steel shaft provides superior wear resistance against the harshest conditions. Self-lubricating for long life.



Check Valve

A.Y. McDonald's "Diamond Design" check valve. Easy out design for maximum convenience and versatility.

Cable Guard

Stainless steel cable guard protects motor leads. Angled top helps keep leads stationary when lowering and raising submersible pump.

Diffuser

Polycarbonate durable corrosion/abrasion. Designed for efficient performance and superior sand handling capability.



Impeller

Glass bead acetal. This smooth and flexible material is precision engineered for maximum performance.



A.Y. McDonald uses it's time proven captured stack design. The captured stack design incorporates sand notches into the diffusers, which is proven to keep sand flowing thru the stack over time.

Heavy Stainless Steel Shell

Threaded at both ends for easy field service.

Stainless Steel Hex Shaft 7/16"

7/16" 300 Series Stainless Steel, hex design for positive impeller drive. Each shaft individually measured for straightness with strict tolerances. Achieves maximum corrosion resistance for longer life.



Motor Bracket
Stainless Steel

- Once assembled, each pump is individually tested to assure performance within design specifications.
- Each pump is stamped with the tester's "signature" marking to assure quality control.

J Series - 5 GPM

A.Y. McDonald offers a full line of stainless steel submersible pumps built for years of trouble free operation, with high-efficiency impellers and diffusers. These submersibles offer peak capacity performance in 5, 7, 10, 15, 20, and 25 gallons per minute (GPM). Other features include stainless steel discharge head with a built-in check valve, and stainless steel shaft and coupling.

All J Series Stainless Steel Pumps come with a 1 1/4" discharge and sizes range from 1/3 to 1 1/2 horse power (HP). Two or three wire models up to 1 1/2 horse power (HP).

Two Wire Single Phase

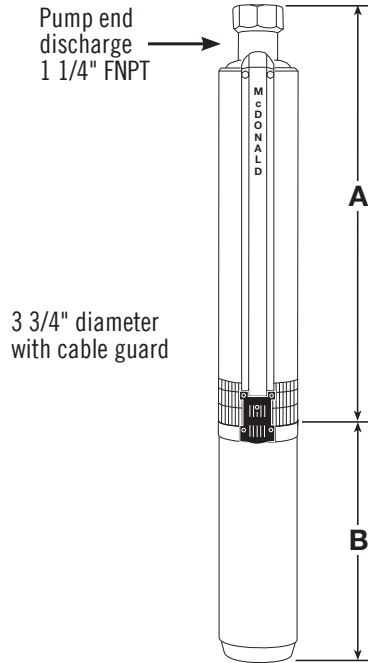
Model No.	HP	Stages	Volt	A	B	Wt.
23030J2A*	1/3	9	115	13.48"	9.53"	26
23030J2*	1/3	9	230	13.48"	9.53"	26
23050J2A	1/2	13	115	16.68"	9.53"	30
23050J2	1/2	13	230	16.68"	9.53"	30
23075J2	3/4	18	230	20.67"	10.66"	36
23100J2	1	23	230	25.93"	11.75"	41
23150J2	1 1/2	30	230	31.45"	15.12"	49

Three Wire** Single Phase

Model No.	HP	Stages	Volt	A	B	Wt.
23030J3A*	1/3	9	115	13.48"	9.53"	26
23030J3*	1/3	9	230	13.48"	9.53"	26
23050J3A	1/2	13	115	16.68"	9.53"	30
23050J3	1/2	13	230	16.68"	9.53"	30
23075J3	3/4	18	230	20.67"	10.66"	36
23100J3	1	23	230	25.93"	11.75"	41
23150J3	1 1/2	30	230	31.45"	13.62"	41

Three Wire** Three Phase

Model No.	HP	Stages	Volt	A	B	Wt.
23150J3Z	1 1/2	30	230	31.45"	15.82"	45



4" Stainless Steel Pump Ends

Model No.	HP	Wt.
23030J	1/3	9
23050J	1/2	10
23075J	3/4	12
23100J	1	13
23150J	1 1/2	18

* All one-third horsepower pumps are furnished with one-half horsepower motors (and control boxes where applicable).

** All three wire pumps are available in three phase by selecting pump end and appropriate motor and starter kit (see pages 108-118).

Output - in Gallons Per Minute (Depth to Water)

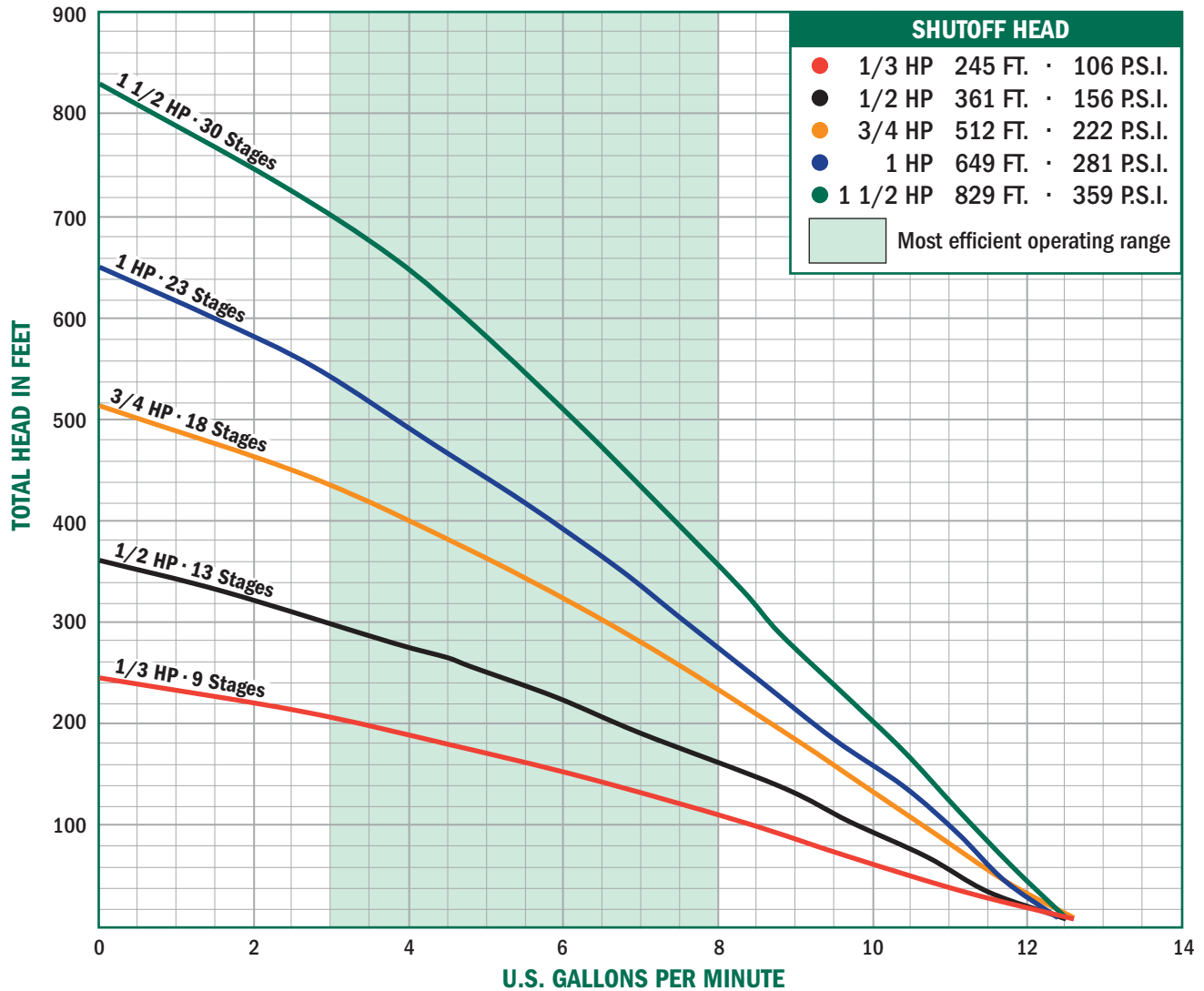
1/3 HP	PSI	25'	50'	75'	100'	125'	150'	175'	200'	225'
	0	11.7	10.6	9.5	8.4	7.3	6.1	4.8	3.4	1.8
	30	8.6	7.5	6.4	5.1	3.8	2.2			
	40	7.6	6.4	5.2	3.9	2.3				
	50	6.5	5.3	4.0	2.5					

1/2 HP	PSI	25'	50'	75'	100'	125'	150'	175'	200'	225'	250'	275'	300'	325'
	0	11.9	11.2	10.5	9.8	9.1	8.4	7.6	6.8	6.0	5.0	4.1	3.0	1.8
	30	10.0	9.2	8.5	7.8	7.0	6.1	5.3	4.3	3.2	2.1			
	40	9.3	8.6	7.8	7.0	6.2	5.3	4.4	3.3	2.2				
	50	8.6	7.9	7.1	6.3	5.4	4.4	3.4	2.3					
60	7.9	7.2	6.3	5.5	4.5	3.5	2.3							

3/4 HP	PSI	25'	50'	75'	100'	125'	150'	175'	200'	225'	250'	275'	300'	325'	350'	375'	400'	425'	450'	
	0	12.2	11.7	11.2	10.7	10.2	9.7	9.2	8.7	8.1	7.6	7.1	6.5	5.9	5.3	4.7	4.0	3.3	2.6	
	30	10.8	10.3	9.8	9.3	8.8	8.3	7.7	7.2	6.6	6.1	5.5	4.9	4.2	3.5	2.7	1.9			
	40	10.3	9.8	9.3	8.8	8.3	7.8	7.2	6.7	6.1	5.5	4.9	4.3	3.6	2.8	2.0				
	50	9.9	9.4	8.9	8.3	7.8	7.3	6.7	6.2	5.6	4.9	4.3	3.6	2.9	2.0					
60	9.4	8.9	8.4	7.9	7.3	6.8	6.2	5.6	5.0	4.4	3.7	2.9	2.1							

FRICITION LOSSES IN RISER PIPE HAVE NOT BEEN CALCULATED

J Series - 5 GPM



Submersible Pumps

	PSI	50'	100'	150'	200'	250'	300'	350'	400'	450'	500'	550'	600'
1 HP	0	11.7	10.9	10.1	9.3	8.4	7.6	6.7	5.8	4.9	3.9	2.7	1.5
	30	10.6	9.8	9.0	8.1	7.3	6.4	5.5	4.5	3.4	2.3		
	40	10.2	9.4	8.6	7.7	6.9	6.0	5.0	4.0	2.9	1.7		
	50	9.9	9.0	8.2	7.3	6.4	5.5	4.6	3.5	2.4			
	60	9.5	8.6	7.8	6.9	6.0	5.1	4.1	3.0	1.8			

	PSI	50'	100'	150'	200'	250'	300'	350'	400'	450'	500'	550'	600'	650'
1 1/2 HP	0	15.9	15.1	14.3	13.4	12.4	11.4	10.4	9.2	7.9	6.5	5.0	3.4	1.6
	30	14.8	13.9	13.0	12.1	11.0	9.9	8.7	7.4	5.9	4.4	2.7		
	40	14.4	13.5	12.6	11.6	10.5	9.4	8.1	6.7	5.2	3.6	1.9		
	50	14.0	13.1	12.1	11.1	10.0	8.8	7.5	6.0	4.5	2.8			
	60	13.6	12.7	11.7	10.6	9.5	8.2	6.8	5.3	3.7	2.0			

FRICITION LOSSES IN RISER PIPE HAVE NOT BEEN CALCULATED

V Series - 7 GPM

A.Y. McDonald offers a full line of stainless steel submersible pumps built for years of trouble free operation, with high-efficiency impellers and diffusers. These submersibles offer peak capacity performance in 5, 7, 10, 15, 20, and 25 gallons per minute (GPM). Other features include stainless steel discharge head with a built-in check valve, and stainless steel shaft and coupling.

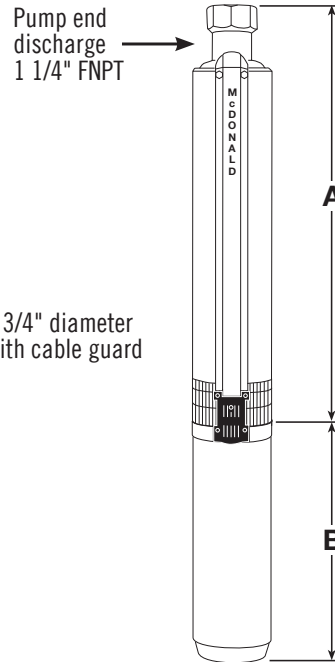
All V Series Stainless Steel Pumps come with a 1 1/4" discharge and sizes range from 1/3 to 2 horse power (HP). Two wire models up to 1 1/2 and three wire models up to 2 horse power (HP).

Two Wire Single Phase

Model No.	HP	Stages	Volt	A	B	WT.
23030V2A*	1/3	6	115	11.1"	9.53"	24
23030V2*	1/3	6	230	11.1"	9.53"	25
23050V2A	1/2	9	115	13.48"	9.53"	26
23050V2	1/2	9	230	13.48"	9.53"	26
23075V2	3/4	12	230	15.92"	10.66"	30
23100V2	1	16	230	19.11"	11.75"	34
23150V2	1 1/2	21	230	23.58"	15.12"	46

Three Wire** Single Phase

Model No.	HP	Stages	Volt	A	B	WT.
23030V3A*	1/3	6	115	11.1"	9.53"	25
23030V3*	1/3	6	230	11.1"	9.53"	25
23050V3A	1/2	9	115	13.48"	9.53"	26
23050V3	1/2	9	230	13.48"	9.53"	26
23075V3	3/4	12	230	15.92"	10.66"	30
23100V3	1	16	230	19.11"	11.75"	35
23150V3	1 1/2	21	230	23.58"	13.62"	41
23200V3	2	26	230	28.34"	15.12"	49



4" Stainless Steel Pump Ends

Model No.	HP	WT.
23030V	1/3	9
23050V	1/2	10
23075V	3/4	13
23100V	1	11
23150V	1 1/2	16
23200V	2	18

* All one-third horsepower pumps are furnished with one-half horsepower motors (and control boxes where applicable).

** All three wire pumps are available in three phase by selecting pump end and appropriate motor and starter kit (see pages 108-118).

Output - in Gallons Per Minute (Depth to Water)

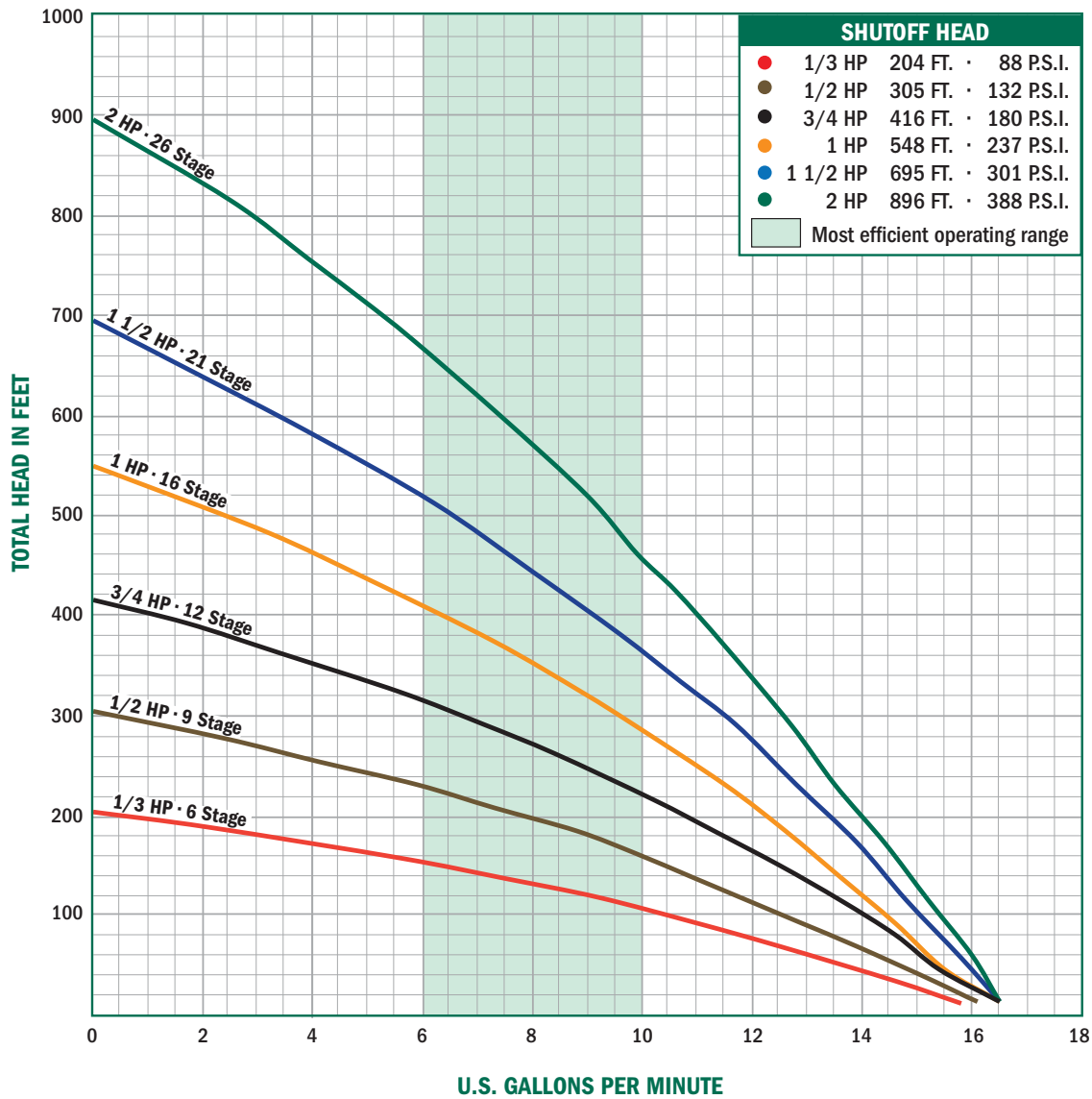
1/3 HP	PSI	25'	50'	75'	100'	125'	150'	175'
	0	15.1	13.7	12.2	10.5	8.6	6.4	3.8
	30	10.9	9.0	6.9	4.4	1.3		
	40	9.2	7.1	4.6	1.6			
	50	7.2	4.8	1.9				

1/2 HP	PSI	25'	50'	75'	100'	125'	150'	175'	200'	225'	250'	275'
	0	15.6	14.6	13.6	12.6	11.5	10.4	9.2	7.8	6.3	4.5	2.5
	30	12.8	11.8	10.7	9.5	8.2	6.7	5.0	3.0			
	40	11.9	10.8	9.6	8.3	6.8	5.1	3.1				
	50	10.9	9.7	8.4	6.9	5.2	3.3					
60	9.8	8.5	7.0	5.4	3.4	1.3						

3/4 HP	PSI	25'	50'	75'	100'	125'	150'	175'	200'	225'	250'	275'	300'	325'	350'	375'
	0	16.1	15.5	14.8	14.0	13.3	12.5	11.6	10.8	9.9	8.9	7.8	6.7	5.5	4.2	2.8
	30	14.2	13.4	12.7	11.8	11.0	10.1	9.1	8.1	7.0	5.8	4.5	3.1	1.5		
	40	13.5	12.7	11.9	11.0	10.1	9.2	8.2	7.1	5.9	4.6	3.2	1.7			
	50	12.8	12.0	11.1	10.2	9.3	8.2	7.2	6.0	4.7	3.3	1.8				
60	12.0	11.2	10.3	9.3	8.3	7.2	6.1	4.8	3.4	1.9						

FRICITION LOSSES IN RISER PIPE HAVE NOT BEEN CALCULATED

V Series - 7 GPM



Submersible Pumps

1 HP	PSI	25'	50'	75'	100'	125'	150'	175'	200'	225'	250'	275'	300'	325'	350'	375'	400'	425'	450'	475'
	0	16.1	15.5	15.0	14.4	13.9	13.3	12.8	12.2	11.6	11.0	10.3	9.6	8.9	8.1	7.2	6.3	5.4	4.5	3.5
30	14.5	14.0	13.5	12.9	12.3	11.8	11.1	10.5	9.8	9.1	8.3	7.4	6.6	5.6	4.7	3.7	2.7			
40	14.0	13.5	12.9	12.4	11.8	11.2	10.5	9.9	9.1	8.3	7.5	6.6	5.7	4.7	3.8	2.8				
50	13.5	13.0	12.4	11.8	11.2	10.6	9.9	9.2	8.4	7.6	6.7	5.8	4.8	3.8	2.8					
60	13.0	12.5	11.9	11.3	10.6	10.0	9.2	8.5	7.6	6.8	5.8	4.9	3.9	2.9	1.9					

1 1/2 HP	PSI	50'	100'	150'	200'	250'	300'	350'	400'	450'	500'	550'	600'	650'
	0	15.9	15.1	14.3	13.4	12.4	11.4	10.4	9.2	7.9	6.5	5.0	3.4	1.6
30	14.8	13.9	13.0	12.1	11.0	9.9	8.7	7.4	5.9	4.4	2.7			
40	14.4	13.5	12.6	11.6	10.5	9.4	8.1	6.7	5.2	3.6	1.9			
50	14.0	13.1	12.1	11.1	10.0	8.8	7.5	6.0	4.5	2.8				
60	13.6	12.7	11.7	10.6	9.5	8.2	6.8	5.3	3.7	2.0				

2 HP	PSI	50'	100'	150'	200'	250'	300'	350'	400'	450'	500'	550'	600'	650'	700'	750'	800'	850'
	0	16.1	15.4	14.7	14.0	13.3	12.6	11.8	11.0	10.2	9.3	8.4	7.4	6.4	5.3	4.1	2.9	1.5
30	15.1	14.5	13.8	13.0	12.3	11.5	10.7	9.8	8.9	8.0	7.0	6.0	4.9	3.7	2.3			
40	14.8	14.1	13.4	12.7	11.9	11.1	10.3	9.4	8.5	7.6	6.5	5.5	4.3	3.1	1.7			
50	14.5	13.8	13.1	12.3	11.5	10.7	9.9	9.0	8.1	7.1	6.1	4.9	3.8	2.4				
60	14.2	13.5	12.7	12.0	11.2	10.3	9.5	8.6	7.6	6.6	5.6	4.4	3.2	1.8				

FRICITION LOSSES IN RISER PIPE HAVE NOT BEEN CALCULATED

K Series - 10 GPM

A.Y. McDonald offers a full line of stainless steel submersible pumps built for years of trouble free operation, with high-efficiency impellers and diffusers. These submersibles offer peak capacity performance in 5, 7, 10, 15, 20, and 25 gallons per minute (GPM). Other features include stainless steel discharge head with a built-in check valve, and stainless steel shaft and coupling.

All K Series Stainless Steel Pumps come with a 1 1/4" discharge and sizes range from 1/3 to 5 horse power (HP). Two wire models up to 1 1/2 and three wire models up to 5 horse power (HP).

Two Wire Single Phase

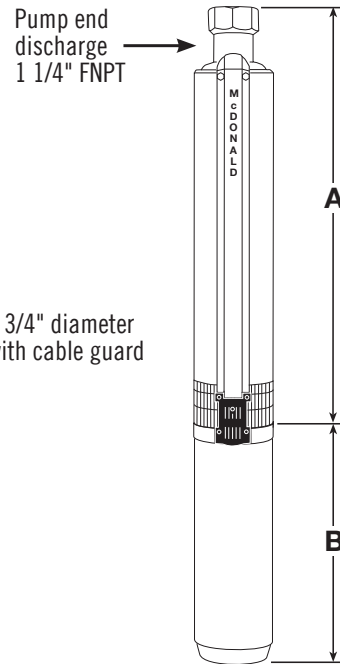
Model No.	HP	Stages	Volt	A	B	WT.
23030K2A*	1/3	5	115	10.51"	9.53"	18
23030K2*	1/3	5	230	10.51"	9.53"	18
23050K2A	1/2	7	115	12.15"	9.53"	25
23050K2	1/2	7	230	12.15"	9.53"	25
23075K2	3/4	9	230	13.84"	10.66"	28
23100K2	1	12	230	16.39"	11.75"	32
23150K2	1 1/2	16	230	21.05"	15.12"	40

Three Wire** Single Phase

Model No.	HP	Stages	Volt	A	B	WT.
23030K3A*	1/3	5	115	10.51"	9.53"	21
23030K3*	1/3	5	230	10.51"	9.53"	21
23050K3A	1/2	7	115	12.15"	9.53"	28
23050K3	1/2	7	230	12.15"	9.53"	28
23075K3	3/4	9	230	13.84"	10.66"	31
23100K3	1	12	230	16.39"	11.75"	35
23150K3	1 1/2	16	230	21.05"	13.62"	44
23200K3	2	20	230	24.48"	15.12"	46
23300K3	3	26	230	29.56"	19.06"	70
23500K3	5	33	230	35.49"	29.62"	89

Three Wire** Three Phase

Model No.	HP	Stages	Volt	A	B	WT.
23150K3Z	1 1/2	16	230	21.05"	15.82"	41
23150K3Y	1 1/2	16	460	21.05"	15.82"	41
23200K3Z	2	20	230	24.48"	17.69"	43
23300K3Z	3	26	230	29.56"	19.20"	60
23500K3Z	5	33	230	35.49"	23.62"	74



4" Stainless Steel Pump Ends

Model No.	HP	WT.
23030K	1/3	7
23050K	1/2	7
23075K	3/4	8
23100K	1	9
23150K	1 1/2	11
23200K	2	14
23300K	3	16
23500K	5	18

* All one-third horsepower pumps are furnished with one-half horsepower motors (and control boxes where applicable).

** All three wire pumps are available in three phase by selecting pump end and appropriate motor and starter kit (see pages 108-118).

Output - in Gallons Per Minute (Depth to Water)

HP	PSI	25'	50'	75'	100'	125'	150'	175'
1/3	0	18.78	16.62	14.27	11.68	8.75	5.31	0.93
	30	12.29	9.45	6.16	2.06			
	40	9.68	6.43	2.42				
	50	6.70	2.76					
60	3.10							

HP	PSI	25'	50'	75'	100'	125'	150'	175'	200'	225'	250'
1/2	0	19.90	18.49	16.99	15.40	13.69	11.84	9.79	7.49	4.78	1.32
	30	15.77	14.09	12.27	10.28	8.04	5.44	2.21			
	40	14.22	12.42	10.44	8.22	5.66	2.49				
	50	12.56	10.60	8.40	5.87	2.76					
60	10.75	8.58	6.08	3.03							

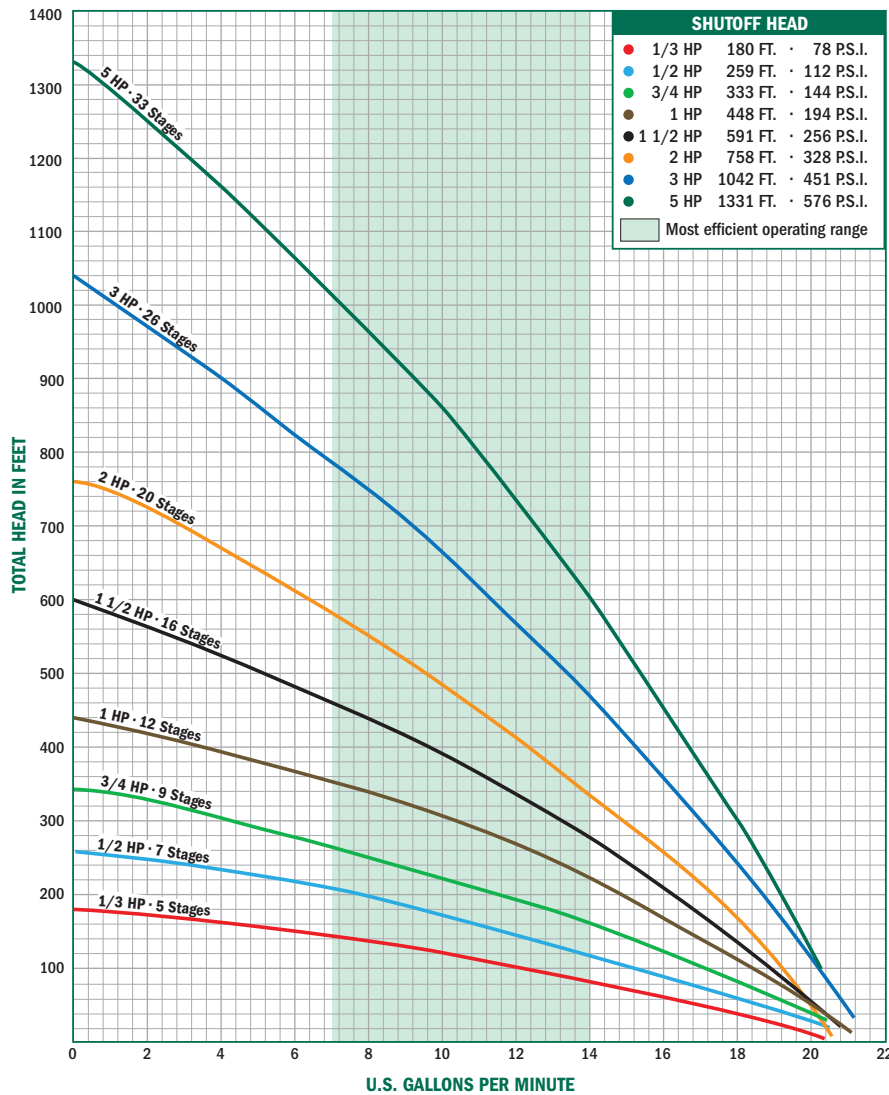
HP	PSI	25'	50'	75'	100'	125'	150'	175'	200'	225'	250'	275'	300'	325'
3/4	0	20.36	19.26	18.12	16.93	15.67	14.35	12.95	11.45	9.83	8.05	6.06	3.75	0.89
	30	17.20	15.97	14.66	13.28	11.80	10.21	8.47	6.54	4.31	1.61			
	40	16.06	14.76	13.39	11.92	10.34	8.61	6.69	4.49	1.84				
	50	14.86	13.49	12.03	10.46	8.75	6.85	4.67	2.07					
60	13.60	12.15	10.59	8.89	7.00	4.85	2.29							

HP	PSI	25'	50'	75'	100'	125'	150'	175'	200'	225'	250'	275'	300'	325'	350'	375'	400'	425'
1	0	20.86	20.05	19.22	18.36	17.47	16.55	15.60	14.61	13.57	12.48	11.33	10.10	8.79	7.37	5.81	4.06	2.00
	30	18.56	17.68	16.77	15.82	14.84	13.81	12.73	11.59	10.39	9.10	7.71	6.18	4.48	2.51	0.09		
	40	17.75	16.84	15.89	14.91	13.89	12.81	11.68	10.48	9.20	7.82	6.30	4.61	2.67	0.29			
	50	16.91	15.97	14.99	13.97	12.90	11.77	10.58	9.30	7.93	6.42	4.75	2.83	0.50				
60	16.04	15.06	14.05	12.98	11.86	10.67	9.40	8.04	6.54	4.89	2.99	0.70						

FRICITION LOSSES IN RISER PIPE HAVE NOT BEEN CALCULATED

Submersible Pumps

K Series - 10 GPM



Submersible Pumps

Output - in Gallons Per Minute (Depth to Water) - Continued

PSI	50'	100'	150'	200'	250'	300'	350'	400'	450'	500'	550'
0	20.18	18.95	17.66	16.31	14.87	13.34	11.69	9.89	7.88	5.58	2.80
30	18.46	17.15	15.76	14.29	12.72	11.01	9.14	7.03	4.58	1.51	
40	17.86	16.52	15.09	13.58	11.95	10.17	8.20	5.95	3.27		
50	17.25	15.87	14.41	12.84	11.15	9.29	7.20	4.78	1.78		
60	16.62	15.21	13.70	12.08	10.31	8.36	6.14	3.49	0.02		

PSI	50'	100'	150'	200'	250'	300'	350'	400'	450'	500'	550'	600'	650'	700'	750'
0	19.85	18.89	17.89	16.85	15.78	14.66	13.49	12.26	10.96	9.59	8.11	6.51	4.75	2.77	0.46
30	18.51	17.49	16.44	15.35	14.21	13.02	11.77	10.44	9.03	7.51	5.85	4.02	1.93		
40	18.04	17.01	15.94	14.83	13.67	12.45	11.17	9.80	8.34	6.76	5.03	3.09	0.84		
50	17.57	16.52	15.44	14.30	13.11	11.87	10.55	9.14	7.63	5.98	4.16	2.10			
60	17.09	16.03	14.92	13.76	12.55	11.27	9.91	8.46	6.89	5.17	3.25	1.02			

FRICION LOSSES IN RISER PIPE HAVE NOT BEEN CALCULATED

PSI	50'	100'	150'	200'	250'	300'	350'	400'	450'	500'	550'	600'	650'	700'	750'	800'	850'	900'	950'	1000'
0	21.05	20.27	19.48	18.67	17.84	16.99	16.11	15.22	14.30	13.35	12.36	11.35	10.30	9.20	8.05	6.85	5.59	4.24	2.81	1.26
30	19.97	19.17	18.35	17.51	16.65	15.77	14.87	13.93	12.97	11.98	10.95	9.88	8.76	7.60	6.37	5.08	3.70	2.23	0.62	
40	19.60	18.79	17.96	17.12	16.25	15.36	14.44	13.49	12.52	11.51	10.46	9.37	8.23	7.04	5.78	4.45	3.03	1.50		
50	19.23	18.41	17.58	16.72	15.84	14.94	14.01	13.05	12.05	11.03	9.96	8.85	7.69	6.47	5.18	3.81	2.34	0.75		
60	18.85	18.03	17.18	16.32	15.43	14.51	13.57	12.59	11.58	10.54	9.45	8.32	7.13	5.88	4.56	3.14	1.62			

PSI	50'	100'	150'	200'	250'	300'	350'	400'	450'	500'	550'	600'	650'	700'	750'	800'	850'	900'	950'	1000'	1050'	1100'	1150'	1200'	1250'	1300'
0	20.96	20.39	19.81	19.22	18.62	18.01	17.38	16.74	16.09	15.42	14.74	14.04	13.32	12.58	11.82	11.04	10.22	9.38	8.51	7.60	6.64	5.64	4.58	3.45	2.24	0.93
30	20.17	19.59	18.99	18.39	17.77	17.14	16.49	15.84	15.16	14.47	13.77	13.04	12.29	11.52	10.73	9.90	9.05	8.16	7.23	6.26	5.24	4.15	3.00	1.75	0.39	
40	19.90	19.31	18.71	18.10	17.48	16.84	16.19	15.53	14.85	14.15	13.43	12.70	11.94	11.16	10.35	9.51	8.64	7.74	6.79	5.80	4.75	3.63	2.43	1.14		
50	19.63	19.04	18.43	17.82	17.19	16.54	15.89	15.21	14.53	13.82	13.09	12.35	11.58	10.79	9.97	9.11	8.23	7.31	6.34	5.32	4.24	3.09	1.85	0.50		
60	19.36	18.76	18.15	17.53	16.89	16.24	15.58	14.90	14.20	13.49	12.75	12.00	11.22	10.41	9.58	8.71	7.81	6.86	5.87	4.83	3.72	2.53	1.24			

L Series - 15 GPM

A.Y. McDonald offers a full line of stainless steel submersible pumps built for years of trouble free operation, with high-efficiency impellers and diffusers. These submersibles offer peak capacity performance in 5, 7, 10, 15, 20, and 25 gallons per minute (GPM). Other features include stainless steel discharge head with a built-in check valve, and stainless steel shaft and coupling.

All L Series Stainless Steel Pumps come with a 1 1/4" discharge and sizes range from 1/3 to 5 horse power (HP). Two wire models up to 1 1/2 and three wire models up to 5 horse power (HP).

Two Wire Single Phase

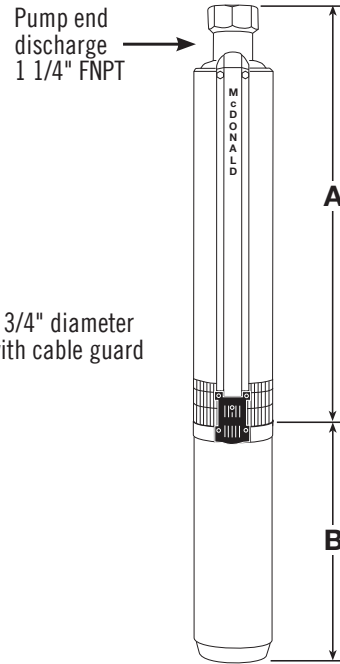
Model No.	HP	Stages	Volt	A	B	WT.
23030L2A*	1/3	5	115	12.02"	9.53"	24
23030L2*	1/3	5	230	12.02"	9.53"	24
23050L2A	1/2	6	115	13.09"	9.53"	24
23050L2	1/2	6	230	13.09"	9.53"	24
23075L2	3/4	8	230	15.25"	10.66"	28
23100L2	1	10	230	17.39"	11.75"	32
23150L2	1 1/2	13	230	20.61"	15.12"	40

Three Wire** Single Phase

Model No.	HP	Stages	Volt	A	B	WT.
23030L3A*	1/3	5	115	12.02"	9.53"	24
23030L3*	1/3	5	230	12.02"	9.53"	24
23050L3A	1/2	6	115	13.09"	9.53"	24
23050L3	1/2	6	230	13.09"	9.53"	24
23075L3	3/4	8	230	15.25"	10.66"	28
23100L3	1	10	230	17.39"	11.75"	32
23150L3	1 1/2	13	230	20.61"	13.62"	37
23200L3	2	17	230	24.91"	15.12"	44
23300L3	3	23	230	32.73"	19.06"	58
23500L3	5	35	230	45.60"	29.62"	85

Three Wire** Three Phase

Model No.	HP	Stages	Volt	A	B	WT.
23150L3Z	1 1/2	13	230	20.61"	11.75"	34
23200L3Z	2	17	230	24.91"	13.62"	41
23300L3Z	3	23	230	32.73"	16.04"	51
23500L3Z	5	35	230	45.60"	23.62"	72



4" Stainless Steel Pump Ends

Model No.	HP	WT.
23030L	1/3	7
23050L	1/2	7
23075L	3/4	8
23100L	1	9
23150L	1 1/2	10
23200L	2	12
23300L	3	15
23500L	5	22

* All one-third horsepower pumps are furnished with one-half horsepower motors (and control boxes where applicable).

** All three wire pumps are available in three phase by selecting pump end and appropriate motor and starter kit (see pages 108-118).

Output - in Gallons Per Minute (Depth to Water)

1/3 HP	PSI	25'	50'	75'	100'	125'
	0	27.82	24.66	21.05	16.70	10.79
	30	17.79	12.38			
	40	12.86	2.69			
	50	4.29				

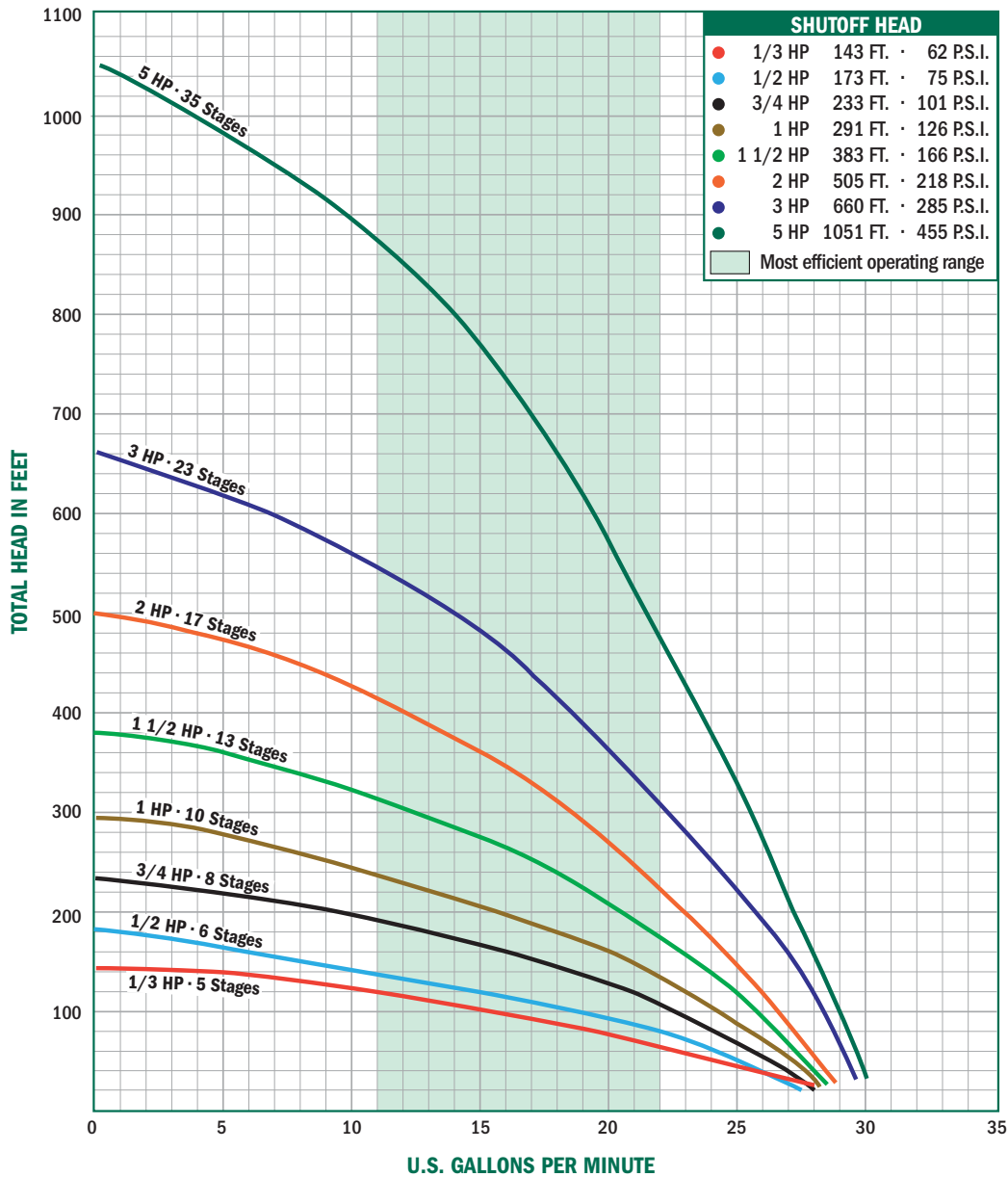
1/2 HP	PSI	25'	50'	75'	100'	125'	150'
	0	28.28	25.58	22.58	19.18	15.14	9.84
	30	20.00	16.14	11.23	2.99		
	40	16.46	11.66	3.99			
	50	12.08	4.85				
60	5.63						

3/4 HP	PSI	25'	50'	75'	100'	125'	150'	175'	200'	225'
	0	28.58	26.69	24.66	22.46	20.05	17.33	14.17	10.21	4.08
	30	22.98	20.62	17.98	14.94	11.22	5.91			
	40	20.81	18.19	15.19	11.54	6.43				
	50	18.40	15.44	11.85	6.92					
60	15.68	12.15	7.38							

1 HP	PSI	25'	50'	75'	100'	125'	150'	175'	200'	225'	250'	300'
	0	28.92	27.42	25.84	24.16	22.37	20.44	18.33	15.97	13.26	9.96	5.33
	30	24.55	22.79	20.89	18.83	16.53	13.92	10.78	6.60			
	40	22.93	21.04	18.99	16.72	14.13	11.05	6.99				
	50	21.19	19.15	16.90	14.34	11.31	7.36					
60	19.31	17.08	14.55	11.56	7.71	0.50						

FRICITION LOSSES IN RISER PIPE HAVE NOT BEEN CALCULATED

L Series - 15 GPM



Submersible Pumps

1 1/2 HP	PSI	50'	100'	150'	200'	250'	300'	350'
	0	28.02	25.72	23.20	20.39	17.15	13.20	7.62
	30	24.78	22.16	19.20	15.74	11.35	4.06	
	40	23.60	20.84	17.68	13.87	8.68		
	50	22.37	19.44	16.03	11.73	4.93		
	60	21.06	17.94	14.19	9.16			

2 HP	PSI	50'	100'	150'	200'	250'	300'	350'	400'	450'	500'
	0	28.57	26.81	24.93	22.92	20.74	18.34	15.61	12.40	8.28	0.77
	30	26.10	24.18	22.11	19.84	17.33	14.44	10.96	6.18		
	40	25.23	23.24	21.09	18.72	16.05	12.93	9.00	2.66		
	50	24.33	22.27	20.02	17.53	14.68	11.25	6.63			
	60	23.40	21.26	18.91	16.27	13.19	9.34	3.38			

3 HP	PSI	50'	100'	150'	200'	250'	300'	350'	400'	450'	500'	550'	600'	650'
	0	29.55	28.24	26.88	25.45	23.93	22.33	20.60	18.73	16.67	14.34	11.60	8.12	2.19
	30	27.72	26.34	24.87	23.33	21.67	19.90	17.96	15.80	13.34	10.38	6.38		
	40	27.09	25.67	24.17	22.58	20.87	19.02	16.99	14.71	12.05	8.72	3.56		
	50	26.44	24.99	23.45	21.80	20.04	18.11	15.98	13.54	10.63	6.75			
	60	25.78	24.29	22.70	21.01	19.17	17.16	14.90	12.27	9.01	4.12			

FRICITION LOSSES IN RISER PIPE HAVE NOT BEEN CALCULATED

5 HP	PSI	50'	100'	150'	200'	250'	300'	350'	400'	450'	500'	550'	600'	650'	700'	750'	800'	850'	900'	950'	1000'
	0	29.70	28.91	28.10	27.27	26.42	25.54	24.62	23.68	22.69	21.67	20.59	19.47	18.27	17.00	15.63	14.14	12.49	10.61	8.38	5.43
	30	28.60	27.79	26.95	26.08	25.19	24.26	23.30	22.30	21.26	20.17	19.01	17.79	16.48	15.07	13.53	11.80	9.80	7.36	3.85	
	40	28.23	27.40	26.55	25.67	24.76	23.82	22.85	21.83	20.76	19.64	18.46	17.20	15.85	14.38	12.75	10.92	8.75	5.95	0.69	
	50	27.85	27.01	26.15	25.26	24.33	23.38	22.38	21.34	20.25	19.10	17.89	16.59	15.18	13.65	11.94	9.97	7.57	4.20		
	60	27.47	26.62	25.74	24.83	23.90	22.92	21.91	20.84	19.73	18.55	17.30	15.95	14.49	12.88	11.07	8.93	6.20	1.48		

P Series - 20 GPM

A.Y. McDonald offers a full line of stainless steel submersible pumps built for years of trouble free operation, with high-efficiency impellers and diffusers. These submersibles offer peak capacity performance in 5, 7, 10, 15, 20, and 25 gallons per minute (GPM). Other features include stainless steel discharge head with a built-in check valve, and stainless steel shaft and coupling.

All P Series Stainless Steel Pumps come with a 1 1/4" discharge and sizes range from 1/2 to 5 horse power (HP). Two wire models up to 1 1/2 and three wire models up to 5 horse power (HP).

Two Wire Single Phase

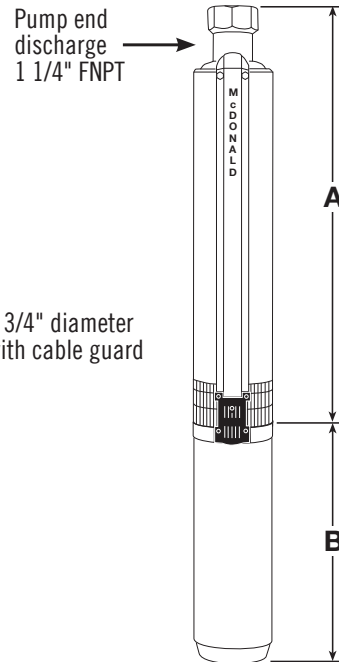
Model No.	HP	Stages	Volt	A	B	WT.
23050P2A	1/2	5	115	12.02"	9.53"	24
23050P2	1/2	5	230	12.02"	9.53"	24
23075P2	3/4	7	230	14.17"	10.66"	28
23100P2	1	9	230	16.32"	11.75"	32
23150P2	1 1/2	12	230	19.54"	15.12"	42

Three Wire** Single Phase

Model No.	HP	Stages	Volt	A	B	WT.
23050P3A	1/2	5	115	12.02"	9.53"	24
23050P3	1/2	5	230	12.02"	9.53"	24
23075P3	3/4	7	230	14.17"	10.66"	27
23100P3	1	9	230	16.32"	11.75"	32
23150P3	1 1/2	12	230	19.54"	13.62"	38
23200P3	2	14	230	21.69"	15.12"	43
23300P3	3	20	230	29.50"	19.06"	56
23500P3	5	32	230	42.38"	29.62"	84

Three Wire Three Phase

Model No.	HP	Stages	Volt	A	B	WT.
23150P3Z	1 1/2	12	230	19.54"	11.75"	35
23200P3Z	2	14	230	21.69"	13.62"	40
23300P3Z	3	20	230	29.50"	16.04"	49
23500P3Z	5	32	230	42.38"	23.62"	72
23500P3Y	5	32	460	42.38"	23.62"	72



4" Stainless Steel Pump Ends

Model No.	HP	WT.
23050P	1/2	6
23075P	3/4	8
23100P	1	9
23150P	1 1/2	10
23200P	2	11
23300P	3	14
23500P	5	22

Submersible Pumps

** All three wire pumps are available in three phase by selecting pump end and appropriate motor and starter kit (see pages 108-118).

Output - in Gallons Per Minute (Depth to Water)

1/2 HP	PSI	25'	50'	75'	100'	125'
	0	32.34	28.61	24.35	19.26	12.48
	30	20.53	14.28	2.68		
	40	14.83	4.36			
	50	5.68				

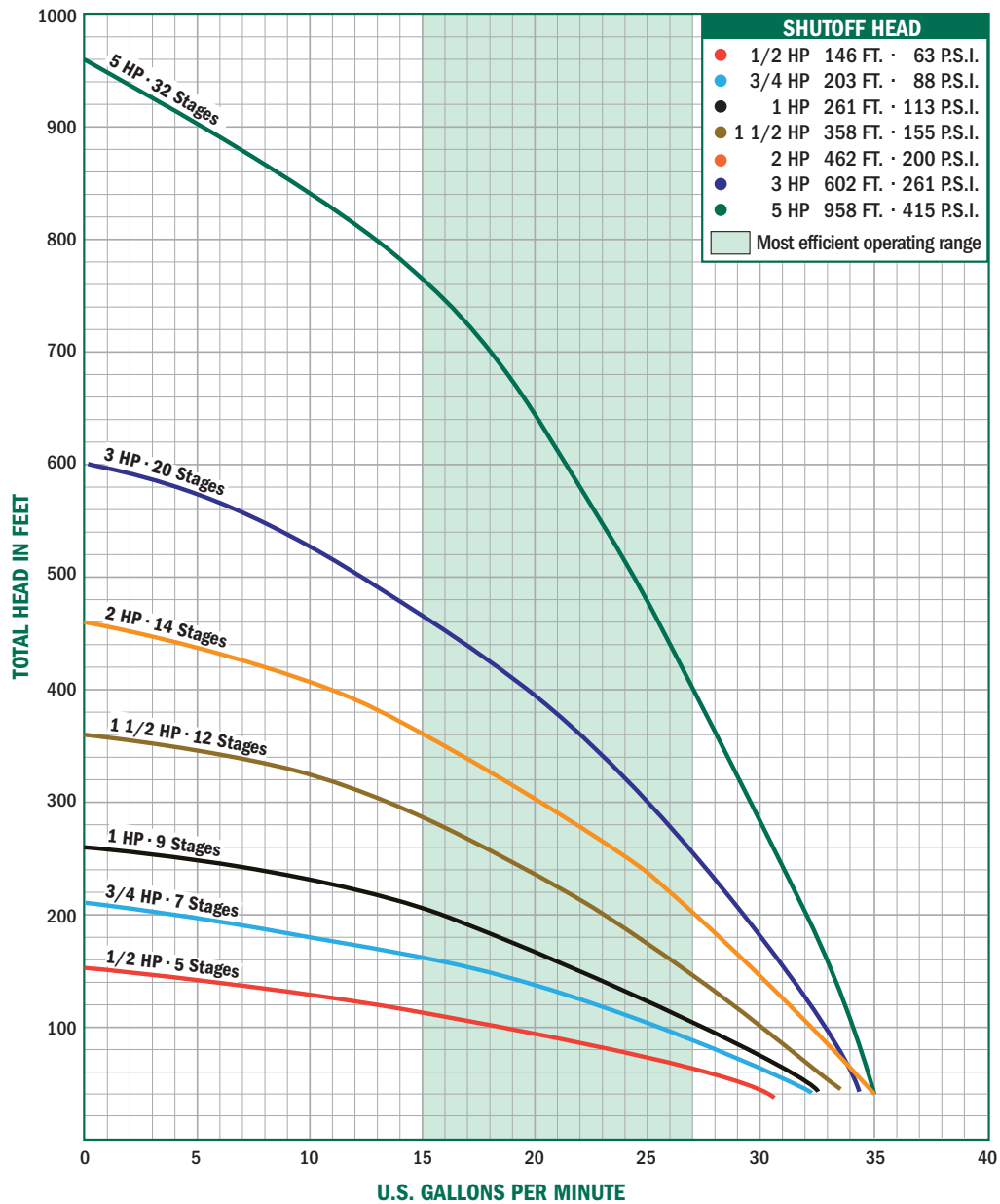
3/4 HP	PSI	25'	50'	75'	100'	125'	150'	175'	200'
	0	32.36	29.82	27.06	24.01	20.58	16.54	11.39	2.53
	30	24.74	21.40	17.53	12.71	5.44			
	40	21.67	17.85	13.13	6.20				
	50	18.16	13.54	6.91					
	60	13.93	7.56						

1 HP	PSI	25'	50'	75'	100'	125'	150'	175'	200'	225'	250'
	0	33.30	31.39	29.36	27.19	24.84	22.26	19.37	16.02	11.88	5.72
	30	27.70	25.39	22.87	20.06	16.84	12.92	7.49			
	40	25.57	23.07	20.29	17.10	13.26	8.01				
	50	23.27	20.51	17.36	13.58	8.50					
60	20.73	17.62	13.90	8.97							

1 1/2 HP	PSI	50'	100'	150'	200'	250'	300'	350'
	0	32.95	29.95	26.64	22.90	18.50	12.88	3.03
	30	28.71	25.26	21.30	16.53	10.04		
	40	27.17	23.50	19.23	13.86	5.38		
	50	25.53	21.62	16.93	10.65			
60	23.80	19.58	14.33	6.32				

FRICITION LOSSES IN RISER PIPE HAVE NOT BEEN CALCULATED

P Series - 20 GPM



Submersible Pumps

2 HP	PSI	50'	100'	150'	200'	250'	300'	350'	400'
	0	34.88	32.45	29.85	27.04	23.94	20.46	16.41	11.33
30	31.47	28.79	25.88	22.65	18.98	14.61	8.85		
40	30.26	27.48	24.43	21.02	17.07	12.20	5.06		
50	29.00	26.11	22.91	19.28	14.97	9.38			
60	27.70	24.68	21.30	17.40	12.62	5.79			

3 HP	PSI	50'	100'	150'	200'	250'	300'	350'	400'	450'	500'	550'
	0	34.31	32.64	30.88	29.03	27.05	24.92	22.61	20.06	17.16	13.72	9.23
30	31.97	30.18	28.28	26.25	24.06	21.66	18.99	15.91	12.16	6.88		
40	31.15	29.31	27.36	25.26	22.98	20.47	17.63	14.29	10.02	2.58		
50	30.32	28.43	26.41	24.23	21.85	19.20	16.16	12.48	7.39			
60	29.46	27.51	25.42	23.16	20.67	17.86	14.57	10.40	3.55			

FRICITION LOSSES IN RISER PIPE HAVE NOT BEEN CALCULATED

5 HP	PSI	50'	100'	150'	200'	250'	300'	350'	400'	450'	500'	550'	600'	650'	700'	750'	800'	850'	900'	950'
	0	35.14	34.10	33.04	31.94	30.80	29.62	28.40	27.12	25.79	24.38	22.90	21.32	19.62	17.78	15.74	13.43	10.69	7.15	.01
30	33.70	32.62	31.50	30.35	29.16	27.91	26.61	25.25	23.82	22.30	20.68	18.93	17.02	14.88	12.43	9.46	5.32			
40	33.20	32.11	30.98	29.80	28.59	27.32	25.99	24.60	23.13	21.56	19.89	18.07	16.06	13.80	11.15	7.77	2.10			
50	32.70	31.59	30.44	29.25	28.01	26.71	25.36	23.93	22.42	20.80	19.07	17.17	15.06	12.64	9.81	5.71				
60	32.19	31.06	29.89	28.68	27.42	26.10	24.71	23.24	21.69	20.02	18.21	16.22	13.98	11.37	8.07	2.79				

M Series - 25 GPM

A.Y. McDonald offers a full line of stainless steel submersible pumps built for years of trouble free operation, with high-efficiency impellers and diffusers. These submersibles offer peak capacity performance in 5, 7, 10, 15, 20, and 25 gallons per minute (GPM). Other features include stainless steel discharge head with a built-in check valve, and stainless steel shaft and coupling.

All M Series Stainless Steel Pumps come with a 1 1/4" discharge and sizes range from 1/2 to 5 horse power (HP). Two wire models up to 1 1/2 and three wire models up to 5 horse power (HP).

Two Wire Single Phase

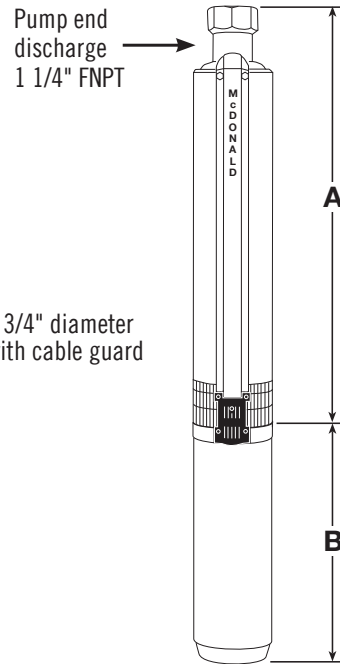
Model No.	HP	Stages	Volt	A	B	WT.
23050M2A	1/2	4	115	10.94"	9.53"	24
23050M2	1/2	4	230	10.94"	9.53"	24
23075M2	3/4	5	230	12.02"	10.66"	26
23100M2	1	7	230	14.17"	11.75"	31
23150M2	1 1/2	9	230	16.32"	15.12"	40

Three Wire** Single Phase

Model No.	HP	Stages	Volt	A	B	WT.
23050M3A	1/2	4	115	10.94"	9.53"	24
23050M3	1/2	4	230	10.94"	9.53"	24
23075M3	3/4	5	230	12.02"	10.66"	26
23100M3	1	7	230	14.17"	11.75"	30
23150M3	1 1/2	9	230	16.32"	13.62"	36
23200M3	2	12	230	19.54"	15.12"	41
23300M3	3	16	230	23.83"	19.06"	53
23500M3	5	25	230	34.88"	29.62"	83

Three Wire** Three Phase

Model No.	HP	Stages	Volt	A	B	WT.
23150M3Z	1 1/2	9	230	16.32"	11.75"	32
23150M3Y	1 1/2	9	460	16.32"	11.75"	33
23200M3Z	2	12	230	19.54"	13.62"	38
23200M3Y	2	12	460	19.54"	13.62"	38
23300M3Z	3	16	230	23.83"	16.04"	46
23300M3Y	3	16	460	23.83"	16.04"	46
23500M3Z	5	25	230	34.88"	23.62"	69
23500M3Y	5	25	460	34.88"	23.62"	69



4" Stainless Steel Pump Ends

Model No.	HP	WT.
23050M	1/2	7
23075M	3/4	7
23100M	1	8
23150M	1 1/2	9
23200M	2	10
23300M	3	11
23500M	5	18

** All three wire pumps are available in three phase by selecting pump end and appropriate motor and starter kit (see pages 108-118).

Output - in Gallons Per Minute (Depth to Water)

1/2 HP	PSI	25'	50'	75'	100'
	0	34.97	29.23	22.43	13.64
	30	15.93	2.93		
	40	4.38			

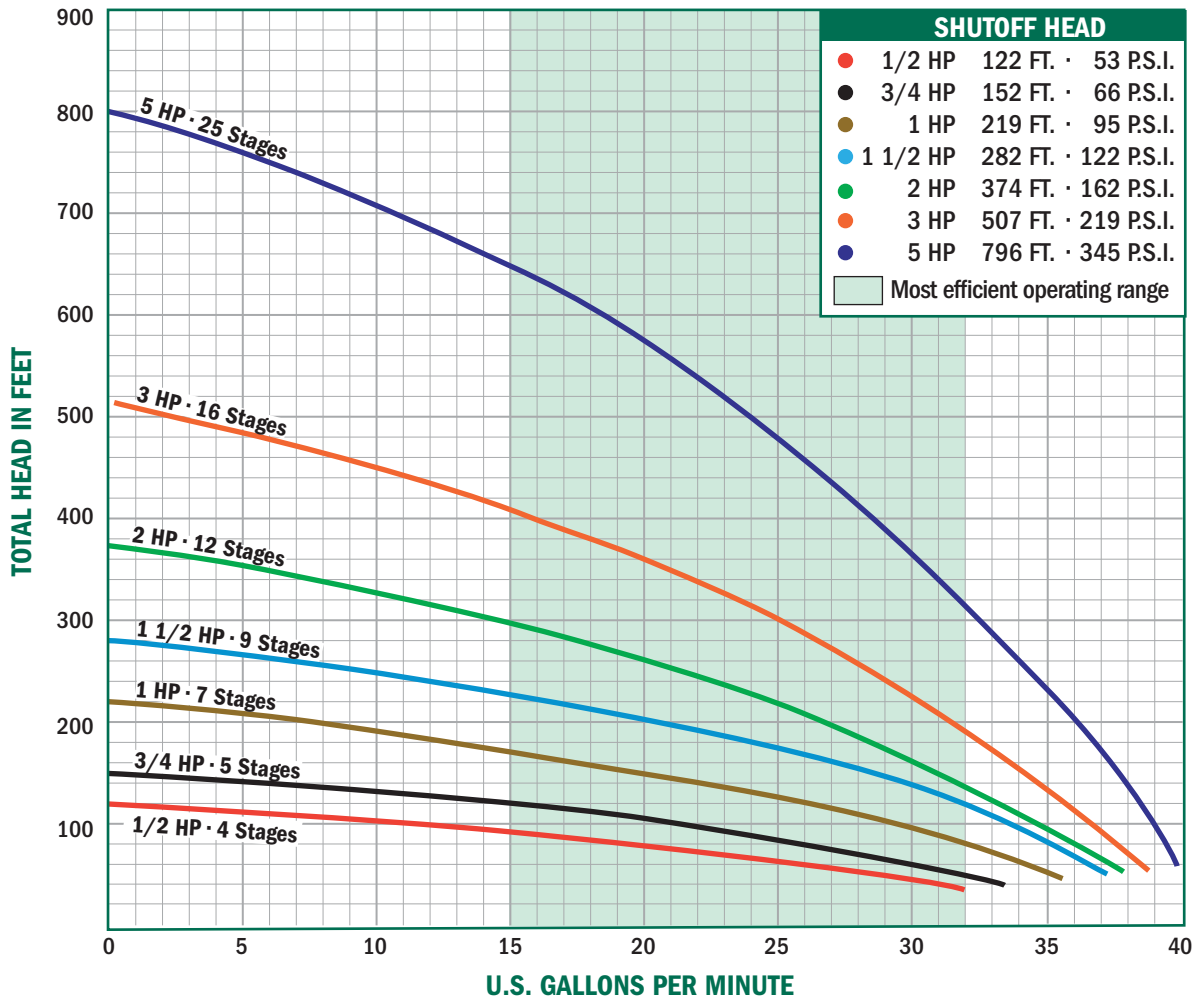
3/4 HP	PSI	25'	50'	75'	100'	125'	150'
	0	36.08	31.97	27.33	21.88	14.91	2.74
	30	23.22	16.71	6.80			
	40	17.27	7.85				
	50	8.81					

1 HP	PSI	25'	50'	75'	100'	125'	150'	175'	200'
	0	38.23	35.39	32.34	29.02	25.34	21.13	16.10	9.38
	30	29.81	26.22	22.15	17.35	11.16			
	40	26.50	22.48	17.75	11.71	1.28			
	50	22.80	18.14	12.24	2.61				
	60	18.53		3.73					

1 1/2 HP	PSI	25'	50'	75'	100'	125'	150'	175'	200'	225'	250'	275'
	0	40.00	37.82	35.52	33.08	30.47	27.63	24.52	21.01	16.91	11.76	3.56
	30	33.65	31.08	28.30	25.26	21.85	17.91	13.07	6.06			
	40	31.28	28.52	25.50	22.13	18.24	13.49	6.76				
	50	28.74	25.74	22.40	18.56	13.90	7.42					
	60	25.98		18.87	14.29	8.04						

FRICITION LOSSES IN RISER PIPE HAVE NOT BEEN CALCULATED

M Series - 25 GPM



Submersible Pumps

2 HP	PSI	50'	100'	150'	200'	250'	300'	350'
	0	38.07	34.66	30.92	26.74	21.91	15.98	7.38
30	33.26	29.37	24.97	19.79	13.16	1.33		
40	31.52	27.42	22.70	16.98	9.04			
50	29.68	25.33	20.23	13.75	2.92			
60	27.75	23.09	17.47	9.80				

3 HP	PSI	50'	100'	150'	200'	250'	300'	350'	400'	450'	500'
	0	39.30	36.84	34.22	31.42	28.38	25.02	21.23	16.75	11.09	1.27
30	35.85	33.16	30.28	27.12	23.62	19.61	14.78	8.24			
40	34.63	31.86	28.86	25.55	21.84	17.51	12.08	3.58			
50	33.38	30.50	27.37	23.90	19.94	15.19	8.85				
60	32.08	29.09	25.82	22.14	17.87	12.56	4.51				

FRICITION LOSSES IN RISER PIPE HAVE NOT BEEN CALCULATED

5 HP	PSI	50'	100'	150'	200'	250'	300'	350'	400'	450'	500'	550'	600'	650'	700'	750'
	0	40.4	38.9	37.4	35.8	34.1	32.4	30.6	28.6	26.5	24.2	21.6	18.7	15.2	11.0	5.8
30	38.3	36.8	35.2	33.5	31.7	29.8	27.8	25.6	23.2	20.5	17.4	13.7	9.2	3.5		
40	37.6	36.0	34.4	32.7	30.9	28.9	26.8	24.5	22.0	19.1	15.8	11.7	6.7			
50	36.9	35.3	33.6	31.9	30.0	28.0	25.8	23.4	20.7	17.7	14.0	9.5				
60	36.2	34.5	32.8	31.0	29.1	27.0	24.7	22.2	19.4	16.1	12.1	7.1				