

21000 Series No-Lead Brass

A.Y. McDonald offers a full line of four inch submersibles ranging from 1/3 through 5 horsepower, with flow rates ranging from 5 to 25 gallons per minute (GPM). Our 21000 submersibles offer peak capacity performance in 5, 7, 10, 15, 20, and 25 gallons per minute (GPM) models.

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

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



Discharge Casting
No-Lead Brass Alloy

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, and abrasion resistant. Designed for efficient performance and superior sand handling capability.

Impeller
Glass Bead Acetal. This smooth and flexible material is precision engineered for maximum performance.

- 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.
- Non-corrosive in-take screen
- Cutaway illustrates features and is not indicative of specific model performance.

Check Valve
Acetal check valve poppet and seal housing, Buna-N O-ring, and stainless steel washer head retention screw. Threaded for easy installation or removal. Working pressure of 400 PSI.

Discharge Bearing
Rubber surrounding the stainless steel shaft provides superior wear resistance against the harshest conditions while maintaining shaft alignment. Self lubricating for long life.

A.Y. McDonald uses its **time proven captured stack design**. The captured stack design incorporates sand notches into the diffusers, which has proven, over time, to keep sand flowing thru the stack.

Polished Stainless Steel Shell
Heavy duty and threaded at both ends for easy field service.

Shaft
7/16" 300 series stainless steel, hex design for positive impeller drive. Each shaft individually measured for straightness with strict tolerances.

Stainless steel motor coupling.

Motor Bracket
No-Lead Brass Alloy

How to Order 4" Submersible Pumps

Order by Model Number - Example: 21050K3A

21

Series

- 21 - No-Lead Brass
- 22 - Thermoplastic
- 23 - Domestic Stainless Steel
- 24 - Stainless Steel

050

Horsepower

- 030 - 1/3 HP
- 050 - 1/2 HP
- 075 - 3/4 HP
- 100 - 1 HP
- 150 - 1 1/2 HP
- 200 - 2 HP
- 300 - 3 HP
- 500 - 5 HP

K

GPM

- J - 5 GPM
- V - 7 GPM
- K - 10 GPM
- L - 15 GPM
- P - 20 GPM
- M - 25 GPM

3

Wires

- Two wire or
- Three wire

A

Other

- Leave blank for 230V
- 60 HZ, Single Phase (Standard)
- A - 115V Single Phase

Other Options - Contact Factory

- Z - 230V Three Phase
- Y - 460V Three Phase

Controls

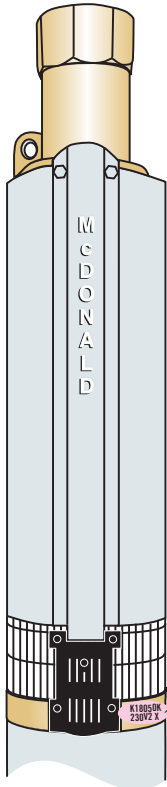
- Leave blank for Control (Standard)
- LB - Less box (Single Phase Option)
- LS - Less starter (Three Phase Option)

Submersible Pumps

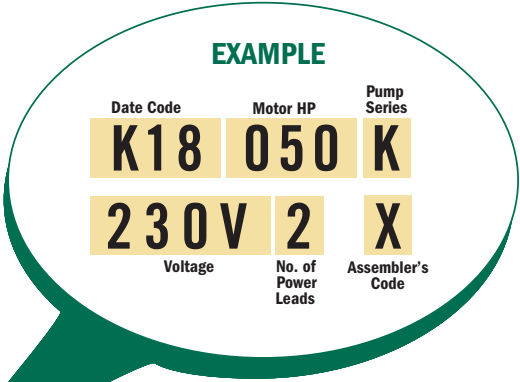
Model 21050K3A is a 1/2 HP, three wire, 115 volt, single phase no-lead brass 4" submersible pump, designed to pump in the 10 GPM range.

NOTES

- Standard is 230V, Single Phase, 60 HZ (no suffix letter required)
- Two-Wire Single phase models include; pump, motor, leads
- Three-Wire Single phase models include; pump, motor, leads, and control box
- Three-Wire Three phase models include; pump, motor, leads, and starter kit
- All submersible pumps include internal check valves and ground lead on motor.



Locating the code number on the pump



A code is stamped on each A.Y. McDonald 21000 series submersible pump. Contained in this code is the following information:

- Date of manufacture
- Motor HP
- Pump Series
- Voltage
- Number of power leads
- Assembler's code

J - 5 GPM

A.Y. McDonald offers a full line of no-lead brass 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 no-lead discharge head with a built-in check valve, and stainless steel shaft and coupling.

All No-Lead Pumps come with a 1 1/4" discharge and sizes range from 1/3 to 1 1/2 horsepower (HP). Two or three wire models up to 1 1/2 horsepower (HP).

Two Wire Single Phase

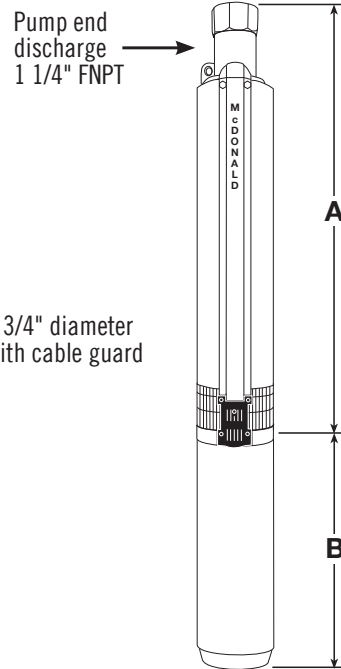
Model No.	HP	Stages	Volt	A	B	Wt.
21030J2A*	1/3	9	115	13.48"	9.53"	26
21030J2*	1/3	9	230	13.48"	9.53"	26
21050J2A	1/2	13	115	16.68"	9.53"	30
21050J2	1/2	13	230	16.68"	9.53"	30
21075J2	3/4	18	230	20.67"	10.66"	36
21100J2	1	23	230	25.93"	11.75"	41
21150J2	1 1/2	30	230	31.45"	15.12"	49

Three Wire** Single Phase

Model No.	HP	Stages	Volt	A	B	Wt.
21030J3A*	1/3	9	115	13.48"	9.53"	26
21030J3*	1/3	9	230	13.48"	9.53"	26
21050J3A	1/2	13	115	16.68"	9.53"	30
21050J3	1/2	13	230	16.68"	9.53"	30
21075J3	3/4	18	230	20.67"	10.66"	36
21100J3	1	23	230	25.93"	11.75"	41
21150J3	1 1/2	30	230	31.45"	13.28"	41

Three Wire Three Phase

Model No.	HP	Stages	Volt	A	B	Wt.
21150J3Z	1 1/2	30	230	31.45"	11.75"	45



4" No-Lead Brass Pump Ends

Model No.	HP	Wt.
21030J	1/3	10
21050J	1/2	11
21075J	3/4	13
21100J	1	15
21150J	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)

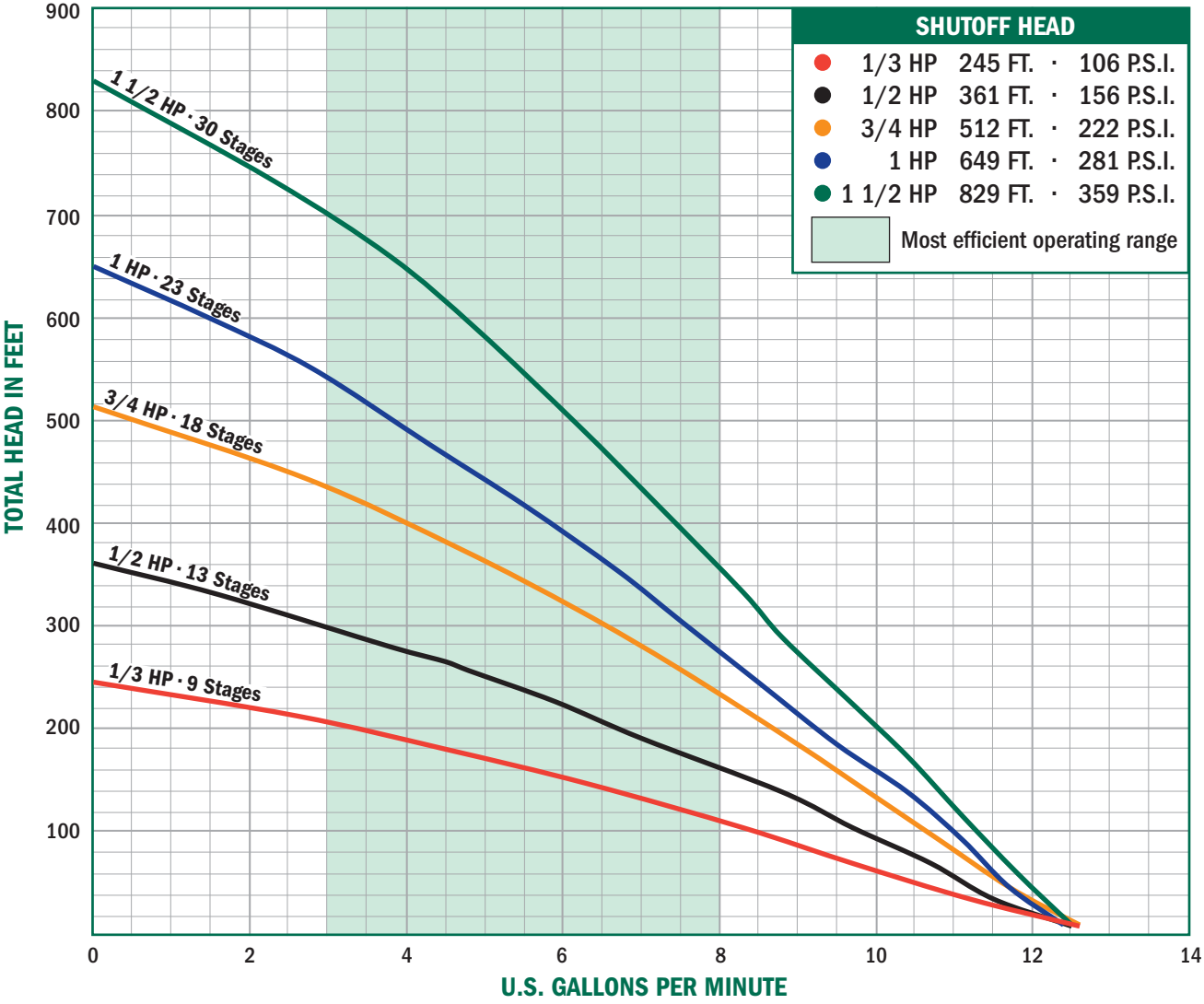
1/3 HP	PSI	25'	50'	75'	100'	125'	150'	175'	200'	225'
	0	11.7	10.6	9.5	8.4	7.3	6.1	4.8	3.4	1.8
	30	8.6	7.5	6.4	5.1	3.8	2.2			
	40	7.6	6.4	5.2	3.9	2.3				
	50	6.5	5.3	4.0	2.5					

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 - 5 GPM



Submersible Pumps

1 HP	PSI	50'	100'	150'	200'	250'	300'	350'	400'	450'	500'	550'	600'
	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				

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				

FRICITION LOSSES IN RISER PIPE HAVE NOT BEEN CALCULATED

V - 7 GPM

A.Y. McDonald offers a full line of no-lead brass 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 no-lead discharge head with a built-in check valve, and stainless steel shaft and coupling.

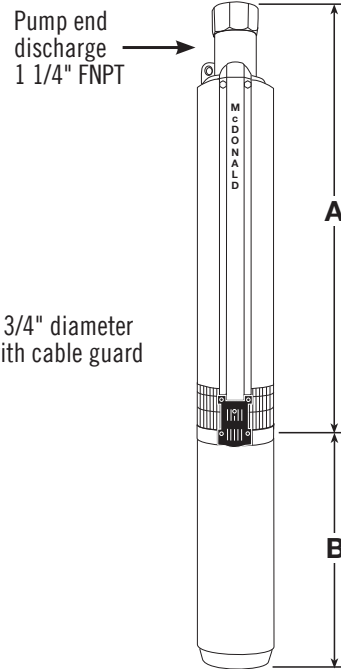
All No-Lead Pumps come with a 1 1/4" discharge and sizes range from 1/3 to 2 horsepower (HP). Two wire models up to 1 1/2 horsepower (HP) or three wire models up to 2 horsepower (HP).

Two Wire Single Phase

Model No.	HP	Stages	Volt	A	B	WT.
21030V2A*	1/3	6	115	11.1"	9.53"	24
21030V2*	1/3	6	230	11.1"	9.53"	25
21050V2A	1/2	9	115	13.48"	9.53"	26
21050V2	1/2	9	230	13.48"	9.53"	26
21075V2	3/4	12	230	15.92"	10.66"	31
21100V2	1	16	230	19.11"	11.75"	34
21150V2	1 1/2	21	230	23.58"	15.12"	46

Three Wire** Single Phase

Model No.	HP	Stages	Volt	A	B	WT.
21030V3A*	1/3	6	115	11.1"	9.53"	25
21030V3*	1/3	6	230	11.1"	9.53"	25
21050V3A	1/2	9	115	13.48"	9.53"	26
21050V3	1/2	9	230	13.48"	9.53"	26
21075V3	3/4	12	230	15.92"	10.66"	30
21100V3	1	16	230	19.11"	11.75"	35
21150V3	1 1/2	21	230	23.58"	13.62"	41
21200V3	2	26	230	28.34"	15.12"	49



4" No-Lead Brass Pump Ends

Model No.	HP	WT.
21030V	1/3	9
21050V	1/2	10
21075V	3/4	13
21100V	1	11
21150V	1 1/2	16
21200V	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)

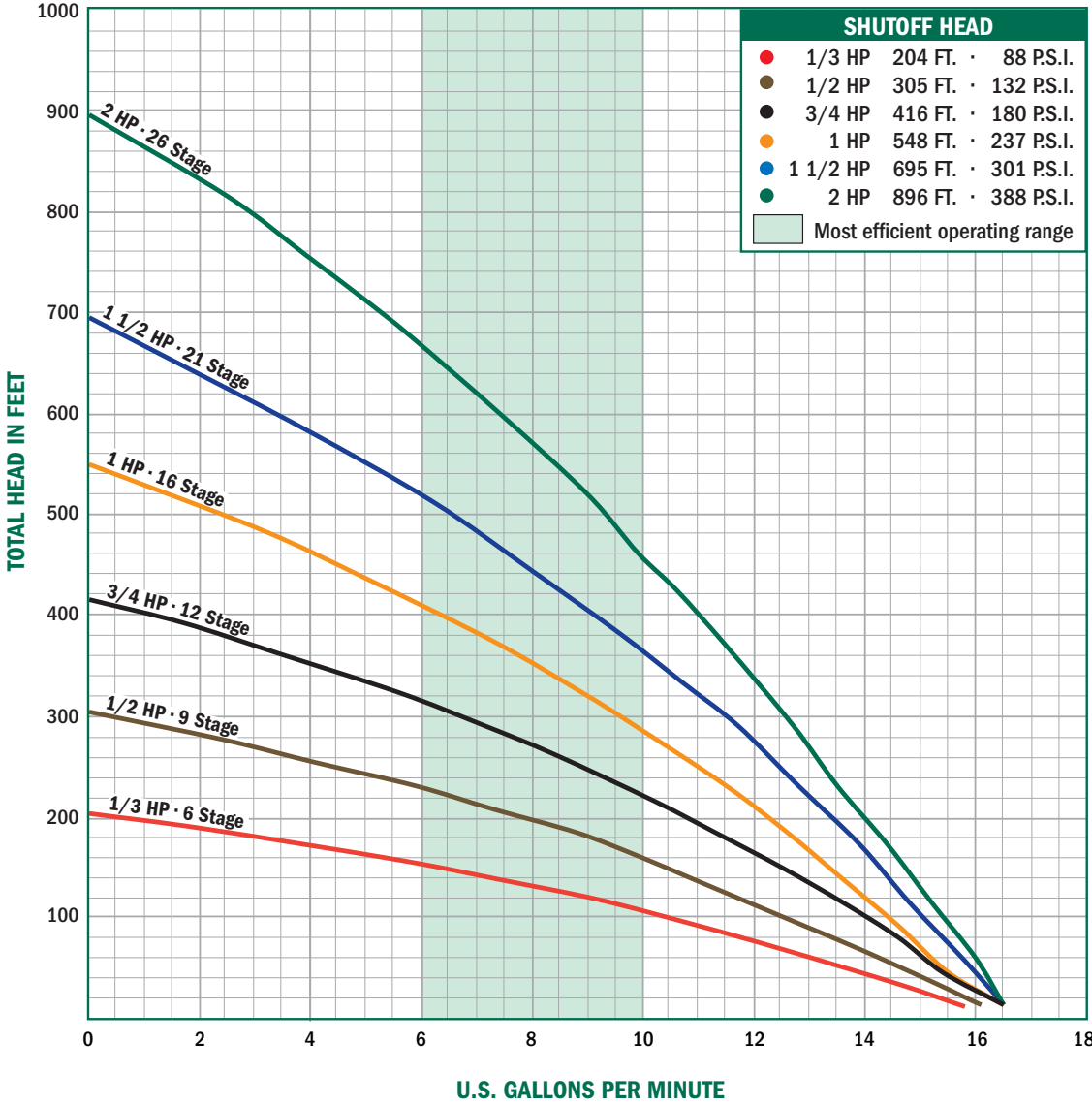
1/3 HP	PSI	25'	50'	75'	100'	125'	150'	175'
	0	15.1	13.7	12.2	10.5	8.6	6.4	3.8
	30	10.9	9.0	6.9	4.4	1.3		
	40	9.2	7.1	4.6	1.6			
	50	7.2	4.8	1.9				

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 - 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 - 10 GPM

A.Y. McDonald offers a full line of no-lead brass 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 no-lead discharge head with a built-in check valve, and stainless steel shaft and coupling.

All No-Lead Pumps come with a 1 1/4" discharge and sizes range from 1/3 to 5 horsepower (HP). Two wire models up to 1 1/2 horsepower (HP) or three wire models up to 5 horsepower (HP).

Two Wire Single Phase

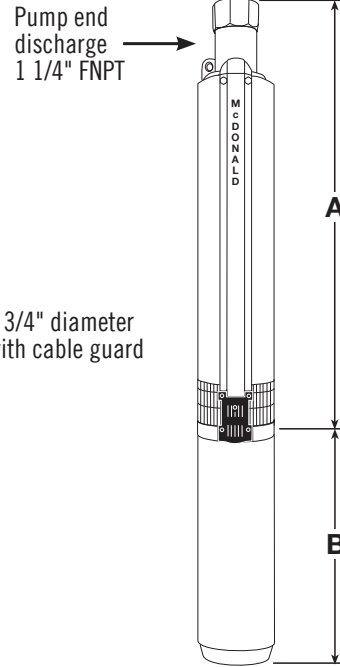
Model No.	HP	Stages	Volt	A	B	WT.
21030K2A*	1/3	5	115	12.01"	9.53"	19
21030K2*	1/3	5	230	12.01"	9.53"	19
21050K2A	1/2	7	115	13.65"	9.53"	19
21050K2	1/2	7	230	13.65"	9.53"	27
21075K2	3/4	9	230	15.34"	10.66"	29
21100K2	1	12	230	17.89"	11.75"	32
21150K2	1 1/2	16	230	22.55"	15.12"	42

Three Wire** Single Phase

Model No.	HP	Stages	Volt	A	B	WT.
21030K3A*	1/3	5	115	12.01"	9.53"	19
21030K3*	1/3	5	230	12.01"	9.53"	19
21050K3A	1/2	7	115	13.65"	9.53"	19
21050K3	1/2	7	230	13.65"	9.53"	19
21075K3	3/4	9	230	15.34"	10.66"	29
21100K3	1	12	230	17.89"	11.75"	33
21150K3	1 1/2	16	230	22.55"	13.62"	38
21200K3	2	20	230	25.95"	15.12"	46
21300K3	3	26	230	31.06"	19.06"	70
21500K3	5	33	230	36.99"	29.62"	91

Three Wire** Three Phase

Model No.	HP	Stages	Volt	A	B	WT.
21150K3Z	1 1/2	16	230	22.55"	11.75"	35
21200K3Z	2	20	230	25.98"	13.62"	43
21300K3Z	3	26	230	31.06"	16.04"	60



4" No-Lead Brass Pump Ends

Model No.	HP	WT.
21030K	1/3	7
21050K	1/2	8
21075K	3/4	9
21100K	1	10
21150K	1 1/2	13
21200K	2	15
21300K	3	17
21500K	5	19

* 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	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							

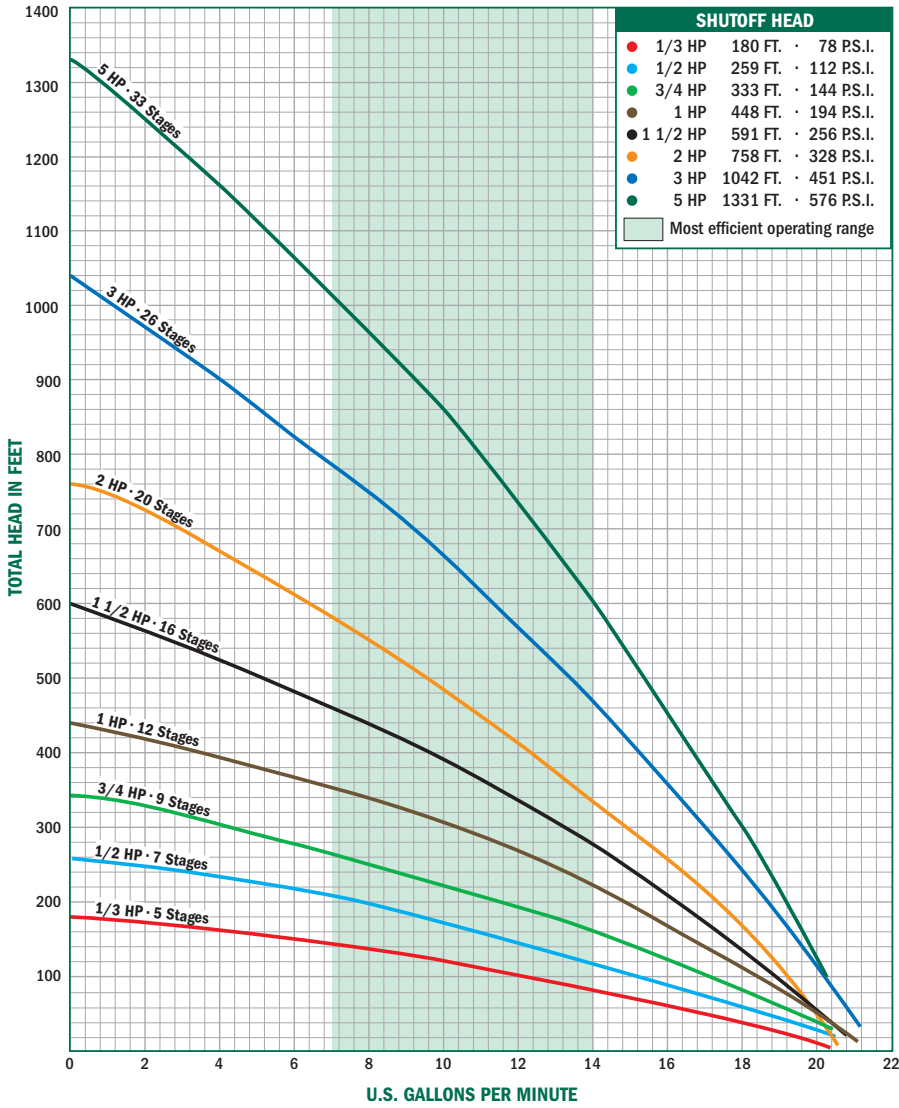
1/2 HP	PSI	25'	50'	75'	100'	125'	150'	175'	200'	225'	250'
	0	19.90	18.49	16.99	15.40	13.69	11.84	9.79	7.49	4.78	1.32
30	15.77	14.09	12.27	10.28	8.04	5.44	2.21				
40	14.22	12.42	10.44	8.22	5.66	2.49					
50	12.56	10.60	8.40	5.87	2.76						
60	10.75	8.58	6.08	3.03							

3/4 HP	PSI	25'	50'	75'	100'	125'	150'	175'	200'	225'	250'	275'	300'	325'
	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							

FRICITION LOSSES IN RISER PIPE HAVE NOT BEEN CALCULATED

1 HP	PSI	25'	50'	75'	100'	125'	150'	175'	200'	225'	250'	275'	300'	325'	350'	375'	400'	425'
	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						

K - 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'	
1 1/2 HP	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'	
2 HP	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			

FRICITION 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'	
3 HP	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'	
5 HP	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 - 15 GPM

A.Y. McDonald offers a full line of no-lead brass 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 no-lead discharge head with a built-in check valve, and stainless steel shaft and coupling.

All No-Lead Pumps come with a 1 1/4" discharge and sizes range from 1/3 to 5 horsepower (HP). Two wire models up to 1 1/2 horsepower (HP) or three wire models up to 5 horsepower (HP).

Two Wire Single Phase

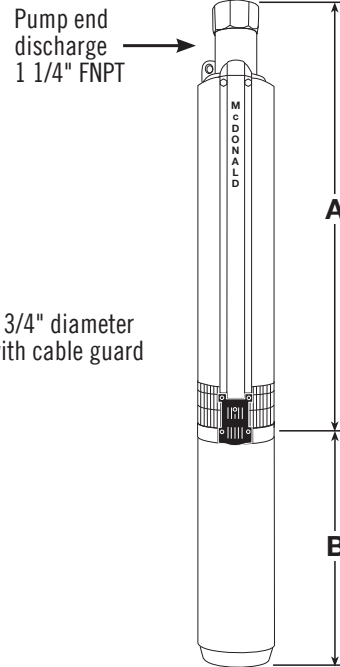
Model No.	HP	Stages	Volt	A	B	WT.
21030L2A*	1/3	5	115	13.52"	9.53"	26
21030L2*	1/3	5	230	13.52"	9.53"	26
21050L2A	1/2	6	115	14.59"	9.53"	26
21050L2	1/2	6	230	14.59"	9.53"	26
21075L2	3/4	8	230	16.75"	10.66"	30
21100L2	1	10	230	18.89"	11.75"	34
21150L2	1 1/2	13	230	22.11"	15.12"	42

Three Wire** Single Phase

Model No.	HP	Stages	Volt	A	B	WT.
21030L3A*	1/3	5	115	13.52"	9.53"	26
21030L3*	1/3	5	230	13.52"	9.53"	26
21050L3A	1/2	6	115	14.59"	9.53"	26
21050L3	1/2	6	230	14.59"	9.53"	26
21075L3	3/4	8	230	16.75"	10.66"	30
21100L3	1	10	230	18.89"	11.75"	34
21150L3	1 1/2	13	230	22.11"	13.62"	39
21200L3	2	17	230	26.41"	15.12"	46
21300L3	3	23	230	34.23"	19.06"	60
21500L3	5	35	230	47.10"	29.62"	87

Three Wire** Three Phase

Model No.	HP	Stages	Volt	A	B	WT.
21200L3Z	2	17	230	26.41"	13.62"	43
21300L3Z	3	23	230	34.23"	16.04"	53
21500L3Z	5	35	230	47.10"	23.62"	74



4" No-Lead Brass Pump Ends

Model No.	HP	WT.
21030L	1/3	8
21050L	1/2	9
21075L	3/4	10
21100L	1	11
21150L	1 1/2	11
21200L	2	13
21300L	3	17
21500L	5	24

* 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						

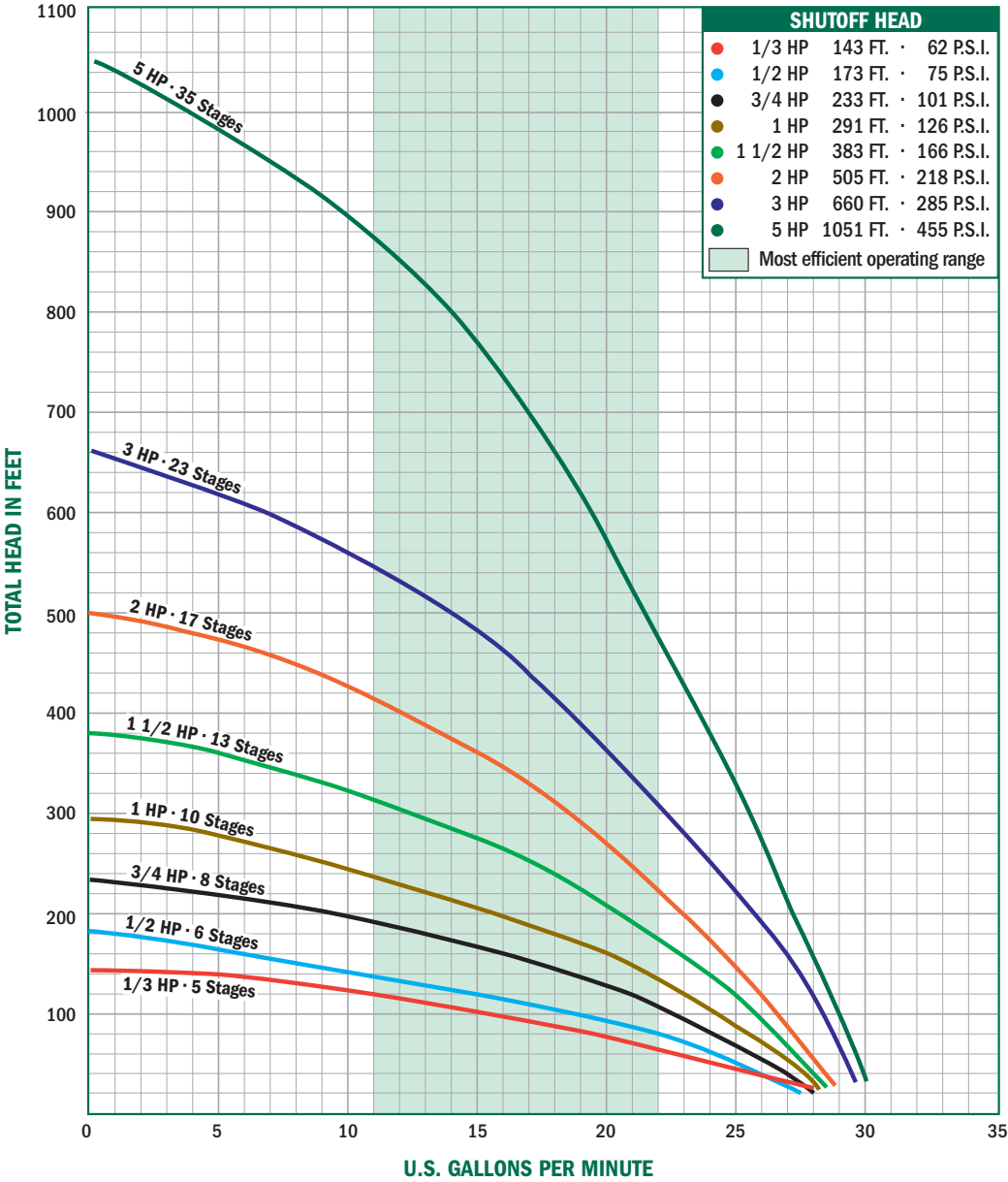
3/4 HP	PSI	25'	50'	75'	100'	125'	150'	175'	200'	225'
	0	28.58	26.69	24.66	22.46	20.05	17.33	14.17	10.21	4.08
30	22.98	20.62	17.98	14.94	11.22	5.91				
40	20.81	18.19	15.19	11.54	6.43					
50	18.40	15.44	11.85	6.92						
60	15.68	12.15	7.38							

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

Submersible Pumps

L - 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 - 20 GPM

A.Y. McDonald offers a full line of no-lead brass 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 no-lead discharge head with a built-in check valve, and stainless steel shaft and coupling.

All No-Lead Pumps come with a 1 1/4" discharge and sizes range from 1/2 to 5 horsepower (HP). Two wire models up to 1 1/2 horsepower (HP) or three wire models up to 5 horsepower (HP).

Two Wire Single Phase

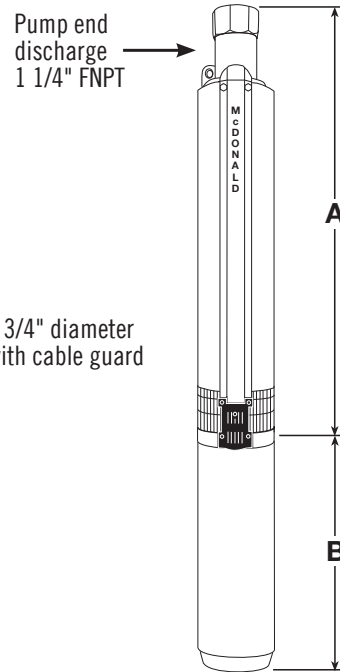
Model No.	HP	Stages	Volt	A	B	WT.
21050P2A	1/2	5	115	13.52"	9.53"	26
21050P2	1/2	5	230	13.52"	9.53"	26
21075P2	3/4	7	230	15.67"	10.66"	30
21100P2	1	9	230	17.82"	11.75"	34
21150P2	1 1/2	12	230	21.04"	15.12"	44

Three Wire** Single Phase

Model No.	HP	Stages	Volt	A	B	WT.
21050P3A	1/2	5	115	13.52"	9.53"	26
21050P3	1/2	5	230	13.52"	9.53"	26
21075P3	3/4	7	230	15.67"	10.66"	29
21100P3	1	9	230	17.82"	11.75"	34
21150P3	1 1/2	12	230	21.04"	13.62"	40
21200P3	2	14	230	23.19"	15.12"	45
21300P3	3	20	230	31.00"	19.06"	58
21500P3	5	32	230	43.88"	29.62"	86

Three Wire** Three Phase

Model No.	HP	Stages	Volt	A	B	WT.
21150P3Z	1 1/2	12	230	21.04"	11.75"	37
21200P3Z	2	14	230	23.19"	13.62"	42
21300P3Z	3	20	230	31.00"	16.04"	51
21500P3Z	5	32	230	43.88"	23.62"	74



4" No-Lead Brass Pump Ends

Model No.	HP	WT.
21050P	1/2	7
21075P	3/4	8
21100P	1	9
21150P	1 1/2	11
21200P	2	12
21300P	3	16
21500P	5	24

** 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				

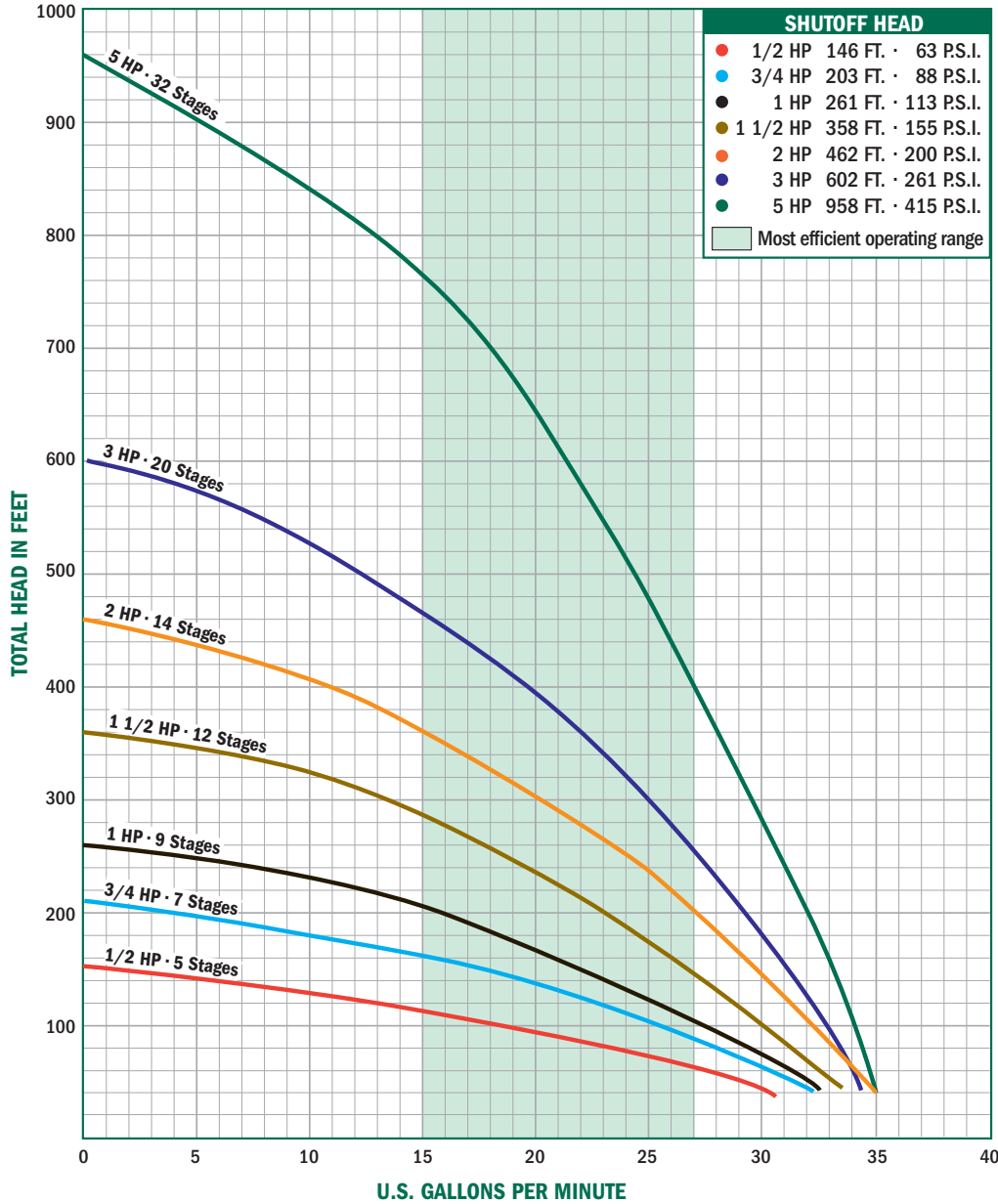
3/4 HP	PSI	25'	50'	75'	100'	125'	150'	175'	200'
	0	32.36	29.82	27.06	24.01	20.58	16.54	11.39	2.53
	30	24.74	21.40	17.53	12.71	5.44			
	40	21.67	17.85	13.13	6.20				
	50	18.16	13.54	6.91					
	60	13.93	7.56						

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 - 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 - 25 GPM

A.Y. McDonald offers a full line of no-lead brass 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 no-lead discharge head with a built-in check valve, and stainless steel shaft and coupling.

All No-Lead Pumps come with a 1 1/4" discharge and sizes range from 1/2 to 5 horsepower (HP). Two wire models up to 1 1/2 horsepower (HP) or three wire models up to 5 horsepower (HP).

Two Wire Single Phase

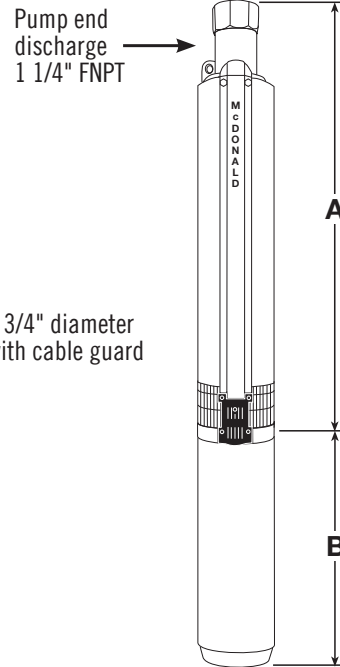
Model No.	HP	Stages	Volt	A	B	WT.
21050M2A	1/2	4	115	12.44"	9.53"	26
21050M2	1/2	4	230	12.44"	9.53"	26
21075M2	3/4	5	230	13.52"	10.66"	28
21100M2	1	7	230	15.67"	11.75"	33
21150M2	1 1/2	9	230	17.82"	15.12"	42

Three Wire** Single Phase

Model No.	HP	Stages	Volt	A	B	WT.
21050M3A	1/2	4	115	12.44"	9.53"	26
21050M3	1/2	4	230	12.44"	9.53"	26
21075M3	3/4	5	230	13.52"	10.66"	28
21100M3	1	7	230	15.67"	11.75"	32
21150M3	1 1/2	9	230	17.82"	13.62"	38
21200M3	2	12	230	21.04"	15.12"	43
21300M3	3	16	230	25.33"	19.06"	55
21500M3	5	25	230	36.38"	29.62"	85

Three Wire** Three Phase

Model No.	HP	Stages	Volt	A	B	WT.
21150M3Z	1 1/2	9	230	17.82"	11.75"	34
21200M3Z	2	12	230	21.04"	13.62"	40
21300M3Z	3	16	230	25.33"	16.04"	48
21500M3Z	5	25	230	36.38"	23.62"	71
21500M3Y	5	25	460	36.38"	23.62"	71



3 3/4" diameter with cable guard

4" No-Lead Brass Pump Ends

Model No.	HP	WT.
21050M	1/2	9
21075M	3/4	9
21100M	1	10
21150M	1 1/2	11
21200M	2	11
21300M	3	14
21500M	5	19

** 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			

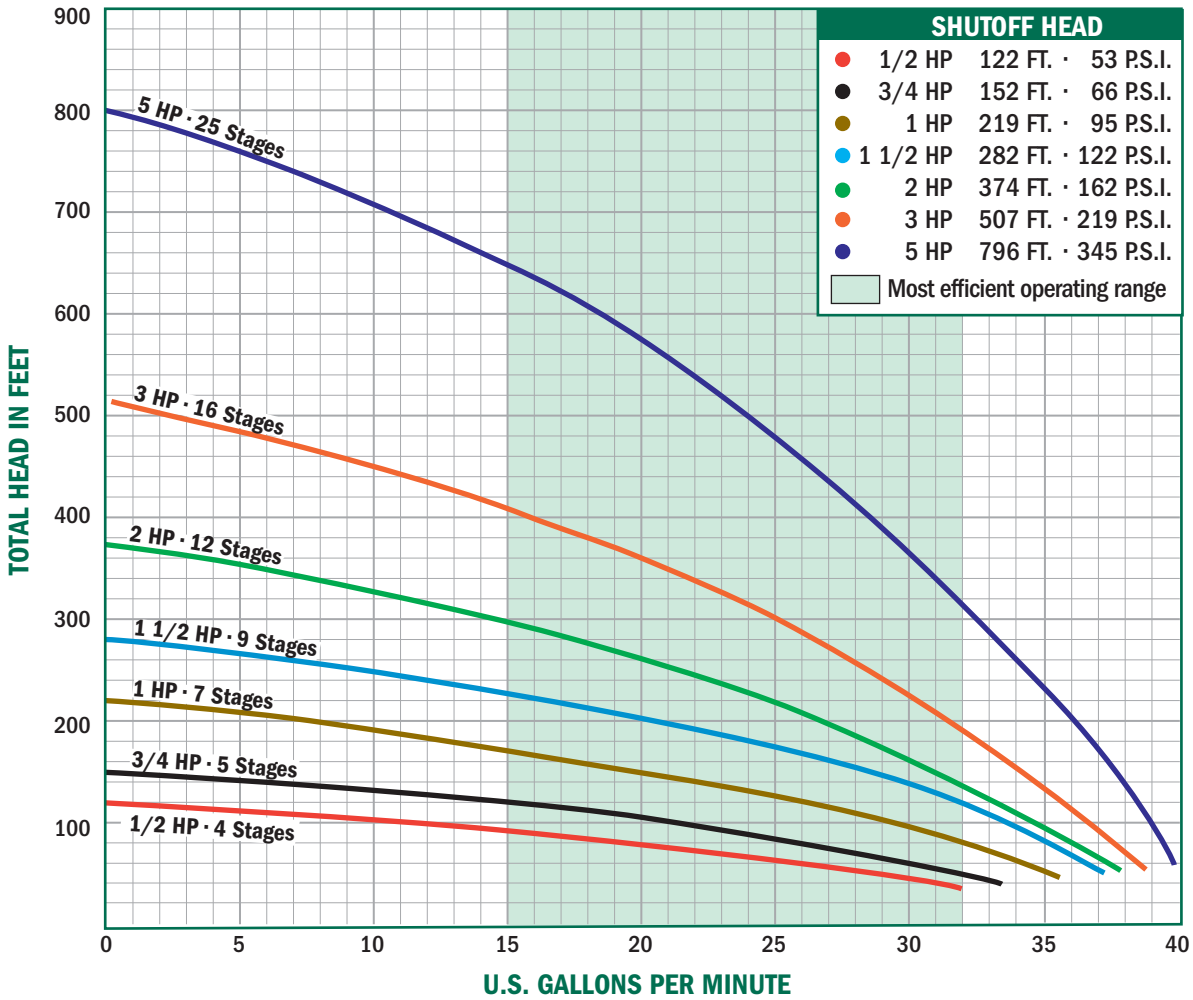
3/4 HP	PSI	25'	50'	75'	100'	125'	150'
	0	36.08	31.97	27.33	21.88	14.91	2.74
	30	23.22	16.71	6.80			
	40	17.27	7.85				
	50	8.81					

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 - 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				