

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 A.Y. McDonald stainless steel motors.

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

Submersible Pumps



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 have 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

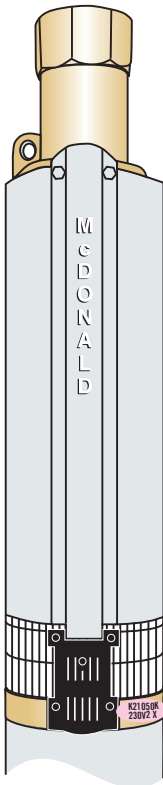
21	050	K	3	A	
Series 21 - No-Lead Brass 22 - Domestic Thermoplastic 23 - Domestic Stainless Steel 24 - Stainless Steel 25 - Thermoplastic	Horsepower 030 - 1/3 HP 050 - 1/2 HP 075 - 3/4 HP 100 - 1 HP 150 - 1 1/2 HP 200 - 2 HP 300 - 3 HP 500 - 5 HP	GPM J - 5 GPM V - 7 GPM K - 10 GPM L - 15 GPM P - 20 GPM M - 25 GPM	Wires Two wire or Three wire	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

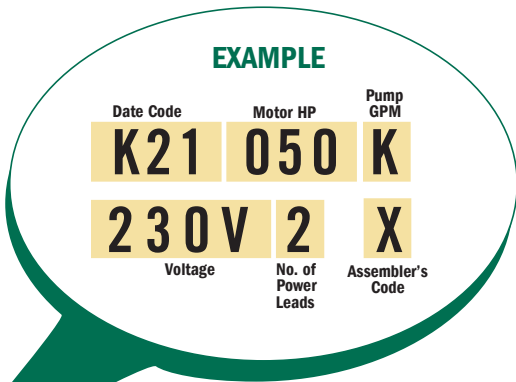
Model 21050K3A is a 1/2 HP, three wire, 115 volt, single phase no-lead brass 4" submersible pump, designed to pump in the 10 GPM range.

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 GPM
- Voltage | Optional
- Number of power leads | Optional
- 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

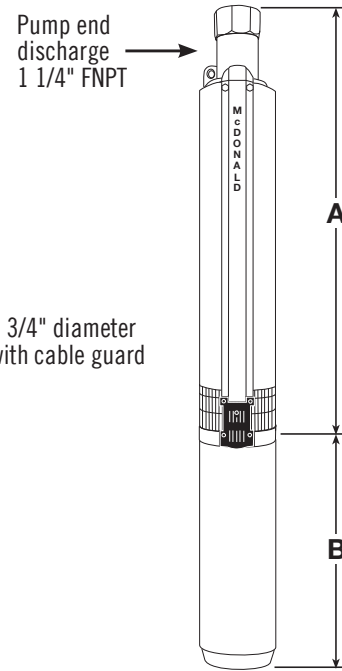
Part No.	Model No.	HP	Stages	Volt	A	B	Wt.
6627-146	21030J2A*	1/3	9	115	13.5"	13.4"	28
6627-145	21030J2*	1/3	9	230	13.5"	13.4"	30
6627-148	21050J2A	1/2	13	115	16.7"	13.4"	28
6627-147	21050J2	1/2	13	230	16.7"	13.0"	29
6627-149	21075J2	3/4	18	230	20.7"	13.8"	34
6627-150	21100J2	1	23	230	25.9"	16.8"	40
6627-151	21150J2	1 1/2	30	230	31.5"	18.5"	51

Three Wire** Single Phase

Part No.	Model No.	HP	Stages	Volt	A	B	Wt.
6627-167	21030J3A*	1/3	9	115	13.5"	9.5"	31
6627-169	21030J3*	1/3	9	230	13.5"	9.5"	31
6627-168	21050J3A	1/2	13	115	16.7"	9.5"	34
6627-170	21050J3	1/2	13	230	16.7"	10.5"	34
6627-171	21075J3	3/4	18	230	20.7"	11.3"	37
6627-172	21100J3	1	23	230	25.9"	13.6"	43
6627-173	21150J3	1 1/2	30	230	31.5"	16.2"	50

Three Wire Three Phase

Part No.	Model No.	HP	Stages	Volt	A	B	Wt.
6627-176	21150J3Z	1 1/2	30	230	31.5"	13.6"	48



4" No-Lead Brass Pump Ends

Part No.	Model No.	HP	Wt.
6627-181	21030J	1/3	10
6627-182	21050J	1/2	11
6627-183	21075J	3/4	13
6627-184	21100J	1	15
6627-185	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 121-136).

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						

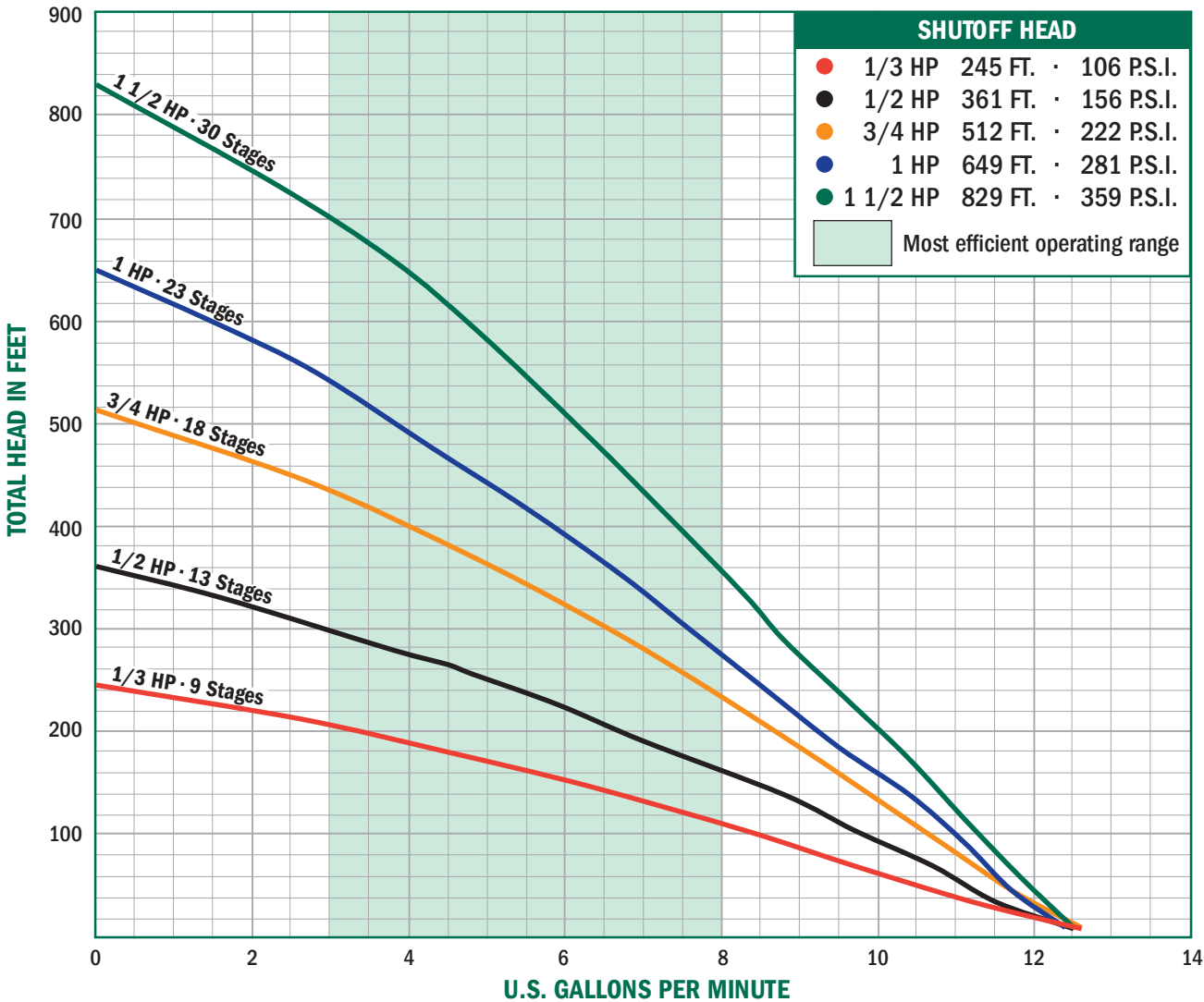
1/2 HP	PSI	25'	50'	75'	100'	125'	150'	175'	200'	225'	250'	275'	300'	325'
	0	11.9	11.2	10.5	9.8	9.1	8.4	7.6	6.8	6.0	5.0	4.1	3.0	1.8
30	10.0	9.2	8.5	7.8	7.0	6.1	5.3	4.3	3.2	2.1				
40	9.3	8.6	7.8	7.0	6.2	5.3	4.4	3.3	2.2					
50	8.6	7.9	7.1	6.3	5.4	4.4	3.4	2.3						
60	7.9	7.2	6.3	5.5	4.5	3.5	2.3							

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

Submersible Pumps

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'	700'	750'
	0	12.0	11.3	10.7	10.0	9.3	8.7	8.0	7.4	6.8	6.1	5.4	4.7	3.9	3.0	1.9
	30	11.1	10.4	9.7	9.1	8.5	7.8	7.2	6.5	5.9	5.2	4.4	3.6	2.6	1.5	
	40	10.8	10.1	9.4	8.8	8.2	7.5	6.9	6.2	5.6	4.8	4.0	3.1	2.1		
	50	10.5	9.8	9.1	8.5	7.9	7.2	6.6	5.9	5.2	4.5	3.6	2.7	1.5		
	60	10.1	9.5	8.8	8.2	7.6	6.9	6.3	5.6	4.9	4.1	3.2	2.2			

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.

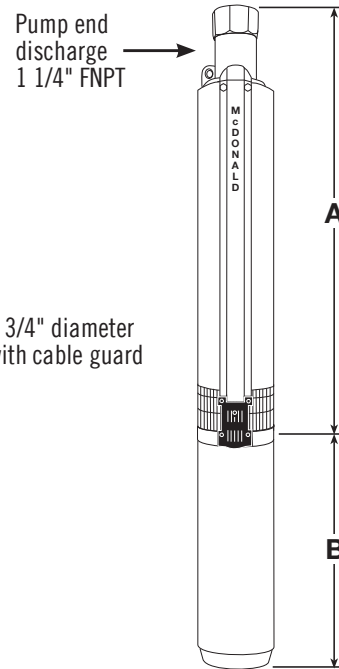
All No-Lead Pumps come with a 1 1/4" discharge and sizes range from 1/3 to 2 horsepower (HP). Two wire models up to 1 1/2 horsepower (HP) or three wire models up to 2 horsepower (HP).

Two Wire Single Phase

Part No.	Model No.	HP	Stages	Volt	A	B	WT.
6633-001	21030V2A*	1/3	6	115	11.1"	13.4"	26
6633-002	21030V2*	1/3	6	230	11.1"	13.4"	27
6633-008	21050V2A	1/2	9	115	13.5"	13.4"	28
6633-009	21050V2	1/2	9	230	13.5"	13.0"	30
6633-014	21075V2	3/4	12	230	15.9"	13.8"	30
6633-019	21100V2	1	16	230	19.1"	16.8"	41
6633-023	21150V2	1 1/2	21	230	23.6"	18.5"	49

Three Wire** Single Phase

Model No.	Model No.	HP	Stages	Volt	A	B	WT.
6633-003	21030V3A*	1/3	6	115	11.1"	9.5"	28
6633-005	21030V3*	1/3	6	230	11.1"	9.5"	28
6633-010	21050V3A	1/2	9	115	13.5"	9.5"	31
6633-012	21050V3	1/2	9	230	13.5"	10.5"	31
6633-015	21075V3	3/4	12	230	15.9"	11.3"	37
6633-020	21100V3	1	16	230	19.1"	13.6"	40
6633-024	21150V3	1 1/2	21	230	23.6"	16.2"	50
6633-027	21200V3	2	26	230	28.3"	16.2"	54



4" No-Lead Brass Pump Ends

Part No.	Model No.	HP	WT.
6633-000	21030V	1/3	9
6633-007	21050V	1/2	10
6633-017	21075V	3/4	13
6633-018	21100V	1	11
6633-022	21150V	1 1/2	16
6633-026	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 121-136).

Output - in Gallons Per Minute (Depth to Water)

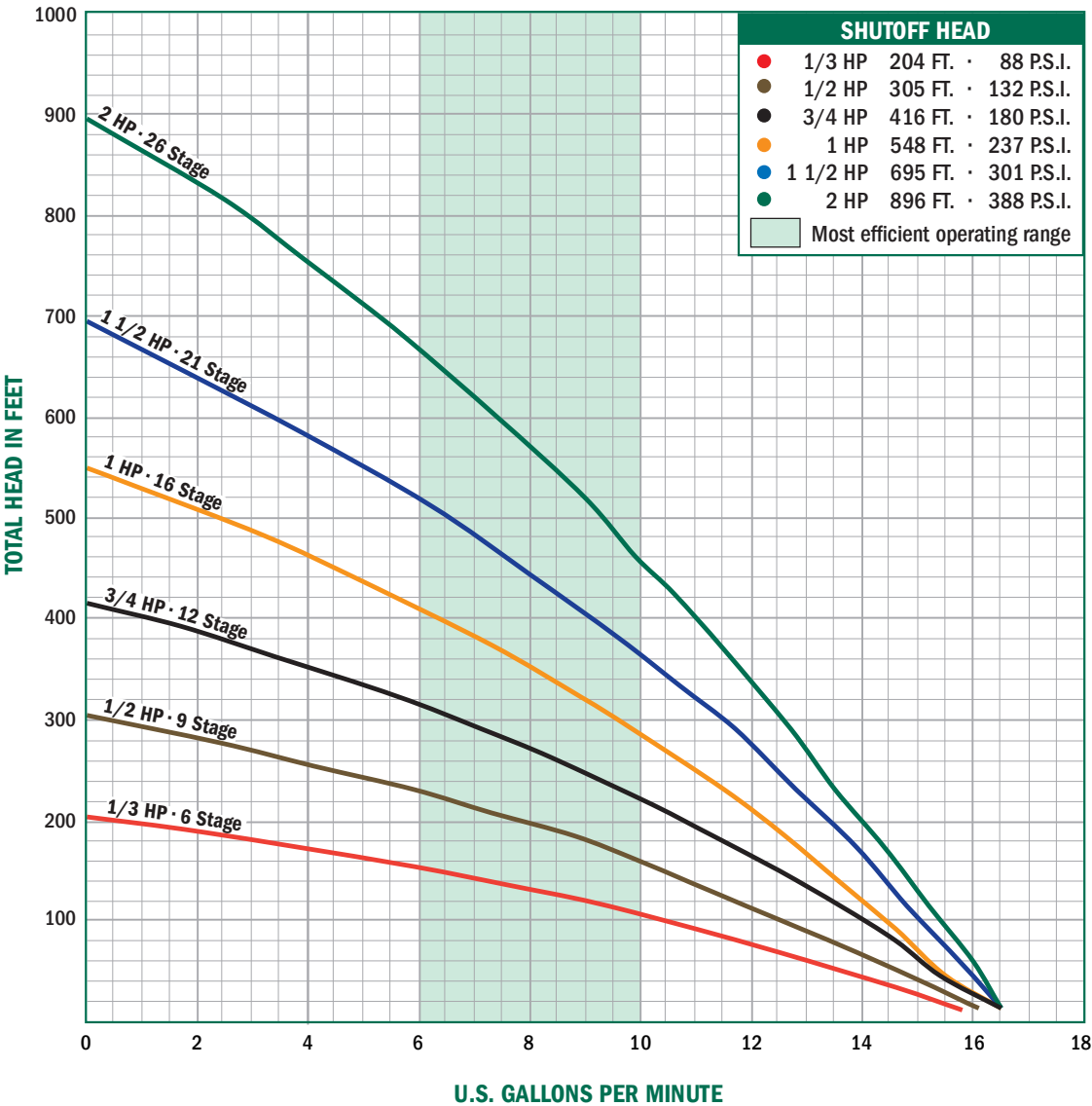
1/3 HP	PSI	25'	50'	75'	100'	125'	150'	175'
	0	15.1	13.7	12.2	10.5	8.6	6.4	3.8
	30	10.9	9.0	6.9	4.4	1.3		
	40	9.2	7.1	4.6	1.6			
	50	7.2	4.8	1.9				

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						

FRICION LOSSES IN RISER PIPE HAVE NOT BEEN CALCULATED

V - 7 GPM



Submersible Pumps

HP	PSI	25'	50'	75'	100'	125'	150'	175'	200'	225'	250'	275'	300'	325'	350'	375'	400'	425'	450'	475'
		1	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
1	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		
1	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			
1	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				
1	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	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					
1 1/2	30	14.8	13.9	13.0	12.1	11.0	9.9	8.7	7.4	5.9	4.4	2.7								
1 1/2	40	14.4	13.5	12.6	11.6	10.5	9.4	8.1	6.7	5.2	3.6	1.9								
1 1/2	50	14.0	13.1	12.1	11.1	10.0	8.8	7.5	6.0	4.5	2.8									
1 1/2	60	13.6	12.7	11.7	10.6	9.5	8.2	6.8	5.3	3.7	2.0									
2	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	
2	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				
2	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				
2	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					
2	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

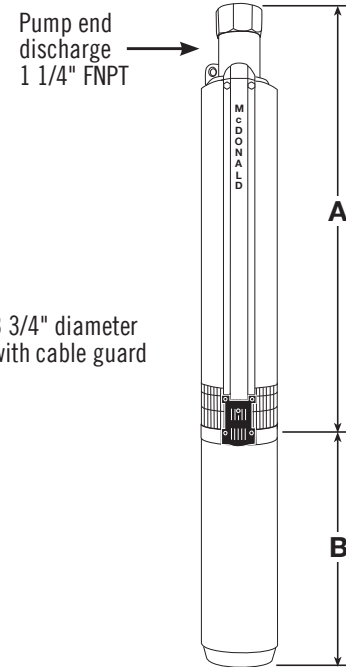
Part No.	Model No.	HP	Stages	Volt	A	B	WT.
6650-002	21030K2A*	1/3	5	115	12.0"	13.4"	25
6650-001	21030K2*	1/3	5	230	12.0"	13.4"	19
6650-009	21050K2A	1/2	7	115	13.7"	13.4"	29
6650-008	21050K2	1/2	7	230	13.7"	13.0"	29
6650-015	21075K2	3/4	9	230	15.3"	13.8"	32
6650-019	21100K2	1	12	230	17.9"	16.8"	38
6650-023	21150K2	1 1/2	16	230	22.6"	18.5"	44

Three Wire** Single Phase

Part No.	Model No.	HP	Stages	Volt	A	B	WT.
6650-004	21030K3A*	1/3	5	115	12.0"	9.5"	29
6650-003	21030K3*	1/3	5	230	12.0"	9.5"	22
6650-011	21050K3A	1/2	7	115	13.7"	9.5"	30
6650-010	21050K3	1/2	7	230	13.7"	10.5"	27
6650-016	21075K3	3/4	9	230	15.3"	11.3"	32
6650-020	21100K3	1	12	230	17.9"	13.6"	36
6650-024	21150K3	1 1/2	16	230	22.6"	16.2"	48
6650-027	21200K3	2	20	230	26.0"	16.2"	51
6650-030	21300K3	3	26	230	31.1"	21.4"	63
6650-269	21500K3	5	33	230	37.0"	26.9"	97

Three Wire** Three Phase

Part No.	Model No.	HP	Stages	Volt	A	B	WT.
6650-282	21150K3Z	1 1/2	16	230	22.6"	13.6"	44
6650-283	21200K3Z	2	20	230	26.0"	15.4"	51
6650-284	21300K3Z	3	26	230	31.1"	19.8"	58



4" No-Lead Brass Pump Ends

Part No.	Model No.	HP	WT.
6650-000	21030K	1/3	7
6650-007	21050K	1/2	8
6650-014	21075K	3/4	9
6650-018	21100K	1	10
6650-022	21150K	1 1/2	13
6650-026	21200K	2	15
6650-029	21300K	3	17
6650-264	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 121-136).

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							

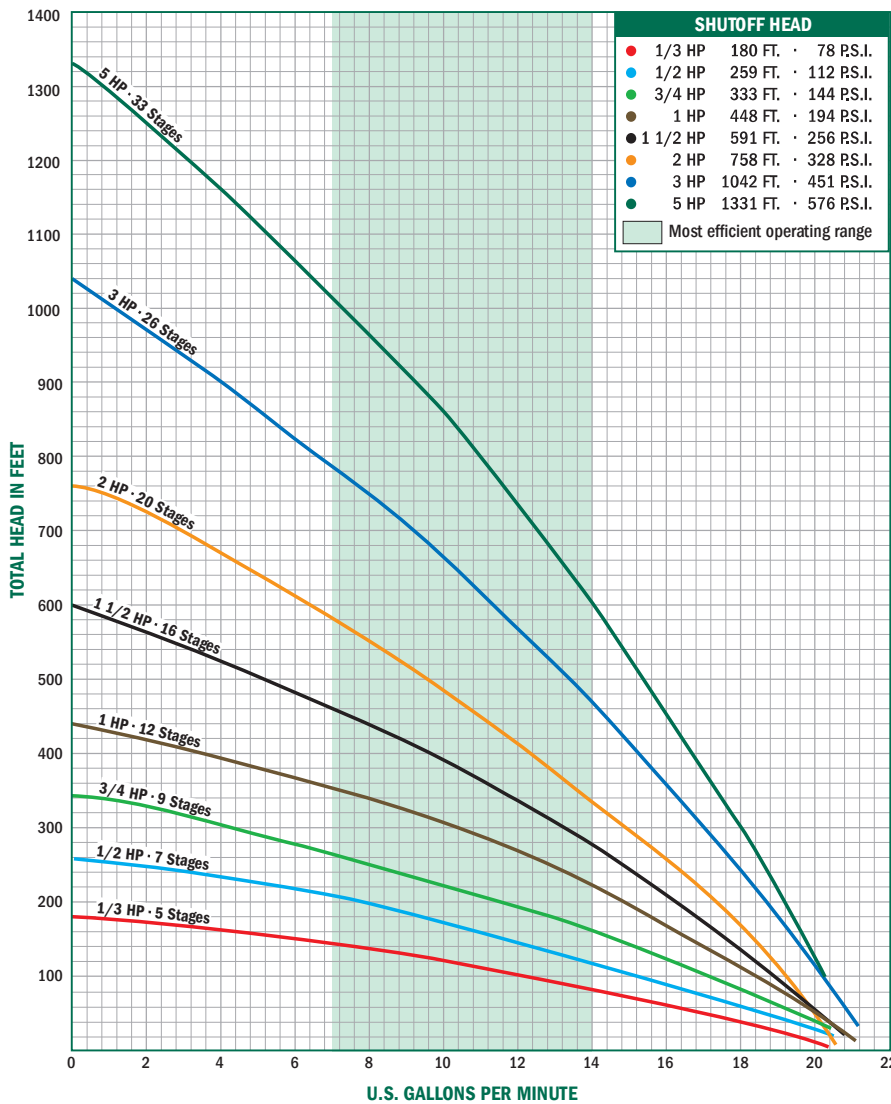
3/4 HP	PSI	25'	50'	75'	100'	125'	150'	175'	200'	225'	250'	275'	300'	325'
	0	20.36	19.26	18.12	16.93	15.67	14.35	12.95	11.45	9.83	8.05	6.06	3.75	0.89
30	17.20	15.97	14.66	13.28	11.80	10.21	8.47	6.54	4.31	1.61				
40	16.06	14.76	13.39	11.92	10.34	8.61	6.69	4.49	1.84					
50	14.86	13.49	12.03	10.46	8.75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

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						

FRICITION LOSSES IN RISER PIPE HAVE NOT BEEN CALCULATED

Submersible Pumps

K - 10 GPM



Submersible Pumps

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

PSI	1 1/2 HP										
	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	2 HP														
	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			

PSI	3 HP																			
	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	5 HP																									
	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			

FRICITION LOSSES IN RISER PIPE HAVE NOT BEEN CALCULATED

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

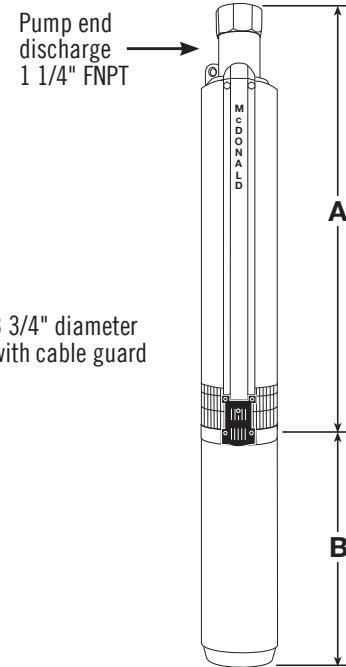
Part No.	Model No.	HP	Stages	Volt	A	B	WT.
6650-070	21030L2A*	1/3	5	115	13.5"	13.4"	26
6650-069	21030L2*	1/3	5	230	13.5"	13.4"	26
6650-077	21050L2A	1/2	6	115	14.6"	13.4"	26
6650-076	21050L2	1/2	6	230	14.6"	13.0"	26
6650-083	21075L2	3/4	8	230	16.8"	13.8"	30
6650-087	21100L2	1	10	230	18.9"	16.8"	34
6650-091	21150L2	1 1/2	13	230	22.1"	18.5"	42

Three Wire** Single Phase

Part No.	Model No.	HP	Stages	Volt	A	B	WT.
6650-072	21030L3A*	1/3	5	115	13.5"	9.5"	26
6650-071	21030L3*	1/3	5	230	13.5"	9.5"	26
6650-079	21050L3A	1/2	6	115	14.6"	9.5"	26
6650-078	21050L3	1/2	6	230	14.6"	10.5"	26
6650-084	21075L3	3/4	8	230	16.8"	11.3"	30
6650-088	21100L3	1	10	230	18.9"	13.6"	34
6650-092	21150L3	1 1/2	13	230	22.1"	16.2"	39
6650-095	21200L3	2	17	230	26.4"	16.2"	46
6650-098	21300L3	3	23	230	34.2"	21.4"	60
6650-270	21500L3	5	35	230	47.1"	26.9"	87

Three Wire** Three Phase

Part No.	Model No.	HP	Stages	Volt	A	B	WT.
6628-199	21200L3Z	2	17	230	26.4"	15.4"	43
6650-285	21300L3Z	3	23	230	34.2"	19.8"	53
6650-286	21500L3Z	5	35	230	47.1"	24.2"	74



4" No-Lead Brass Pump Ends

Part No.	Model No.	HP	WT.
6650-068	21030L	1/3	8
6650-075	21050L	1/2	9
6650-082	21075L	3/4	10
6650-086	21100L	1	11
6650-090	21150L	1 1/2	11
6650-094	21200L	2	13
6650-097	21300L	3	17
6650-100	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 121-136).

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						

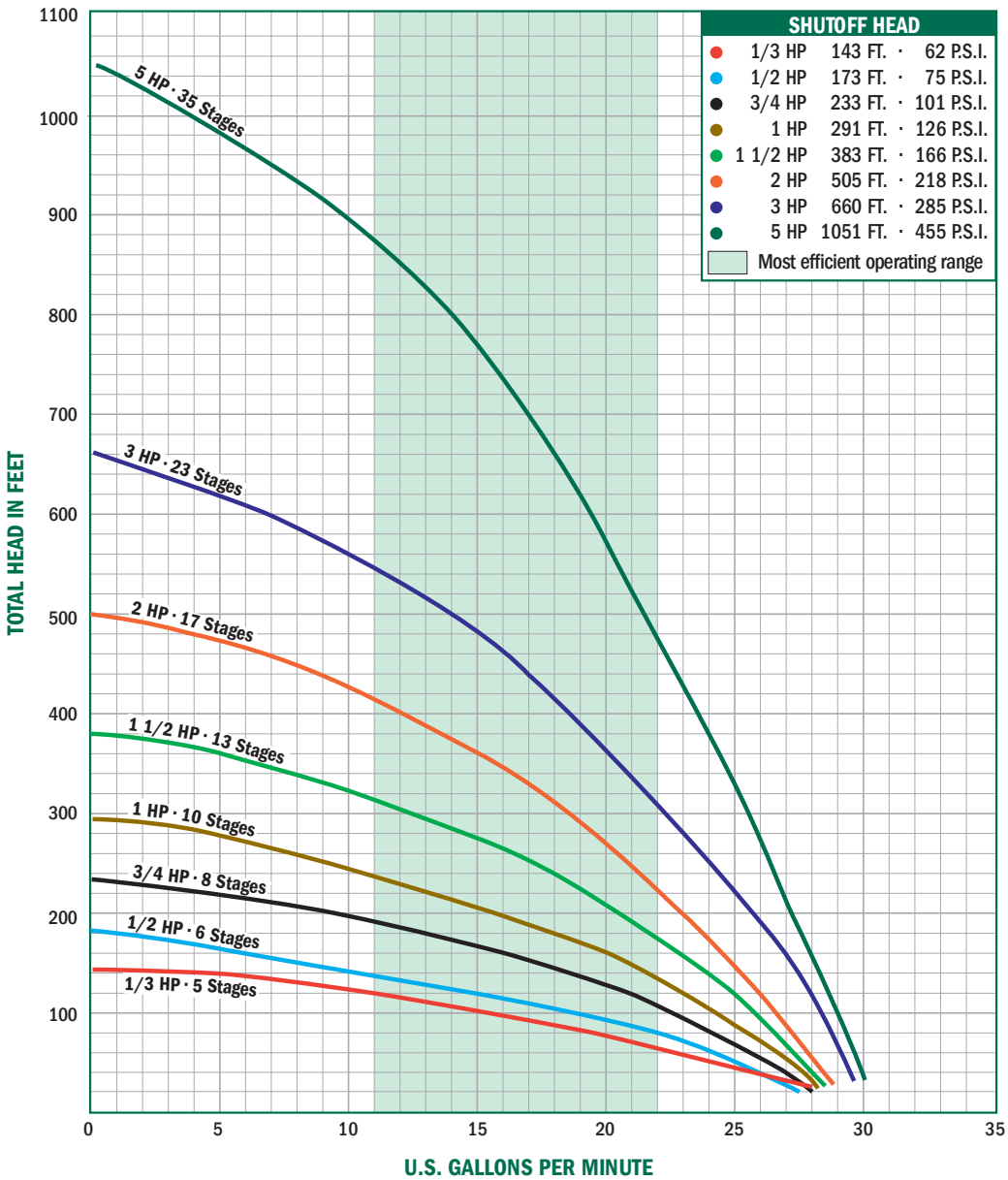
3/4 HP	PSI	25'	50'	75'	100'	125'	150'	175'	200'	225'
	0	28.58	26.69	24.66	22.46	20.05	17.33	14.17	10.21	4.08
30	22.98	20.62	17.98	14.94	11.22	5.91				
40	20.81	18.19	15.19	11.54	6.43					
50	18.40	15.44	11.85	6.92						
60	15.68	12.15	7.38							

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				

FRICTION 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

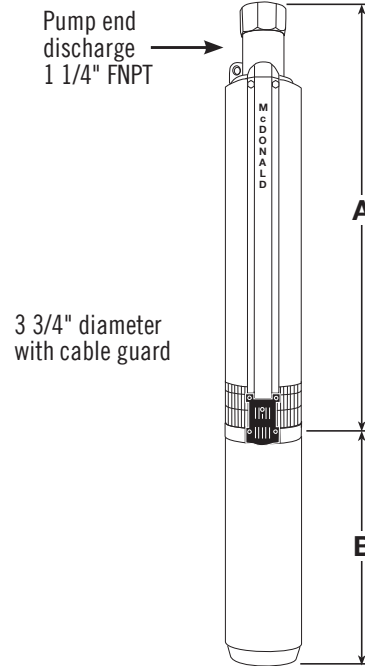
Part No.	Model No.	HP	Stages	Volt	A	B	WT.
6650-103	21050P2A	1/2	5	115	13.5"	13.4"	26
6650-102	21050P2	1/2	5	230	13.5"	13.0"	26
6650-109	21075P2	3/4	7	230	15.7"	13.8"	30
6650-113	21100P2	1	9	230	17.8"	16.8"	34
6650-117	21150P2	1 1/2	12	230	21.0"	18.5"	44

Three Wire** Single Phase

Part No.	Model No.	HP	Stages	Volt	A	B	WT.
6650-105	21050P3A	1/2	5	115	13.5"	9.5"	26
6650-104	21050P3	1/2	5	230	13.5"	10.5"	26
6650-110	21075P3	3/4	7	230	15.7"	11.3"	29
6650-114	21100P3	1	9	230	17.8"	13.6"	34
6650-118	21150P3	1 1/2	12	230	21.0"	16.2"	40
6650-121	21200P3	2	14	230	23.2"	16.2"	45
6650-124	21300P3	3	20	230	31.0"	21.4"	58
6650-127	21500P3	5	32	230	43.9"	26.9"	86

Three Wire** Three Phase

Part No.	Model No.	HP	Stages	Volt	A	B	WT.
6629-176	21150P3Z	1 1/2	12	230	21.0"	13.6"	37
6629-177	21200P3Z	2	14	230	23.2"	15.4"	42
6629-178	21300P3Z	3	20	230	31.0"	19.8"	51
6650-130	21500P3Z	5	32	230	43.9"	24.2"	74



4" No-Lead Brass Pump Ends

Part No.	Model No.	HP	WT.
6650-101	21050P	1/2	7
6650-108	21075P	3/4	8
6650-112	21100P	1	9
6650-116	21150P	1 1/2	11
6650-120	21200P	2	12
6650-123	21300P	3	16
6650-126	21500P	5	24

** All three wire pumps are available in three phase by selecting pump end and appropriate motor and starter kit (see pages 121-136).

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					

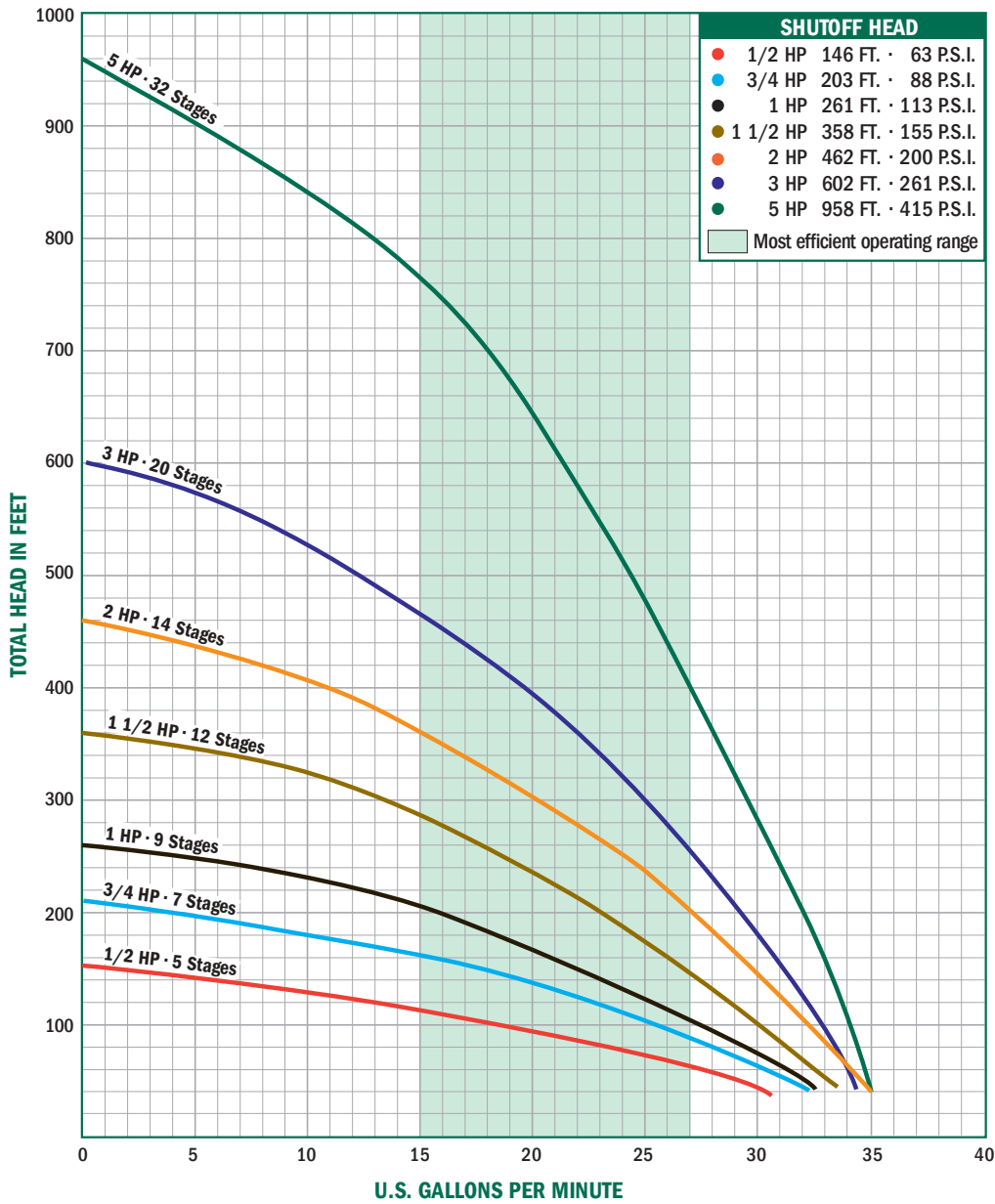
3/4 HP	PSI	25'	50'	75'	100'	125'	150'	175'	200'
0	32.36	29.82	27.06	24.01	20.58	16.54	11.39	2.53	
30	24.74	21.40	17.53	12.71	5.44				
40	21.67	17.85	13.13	6.20					
50	18.16	13.54	6.91						
60	13.93	7.56							

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

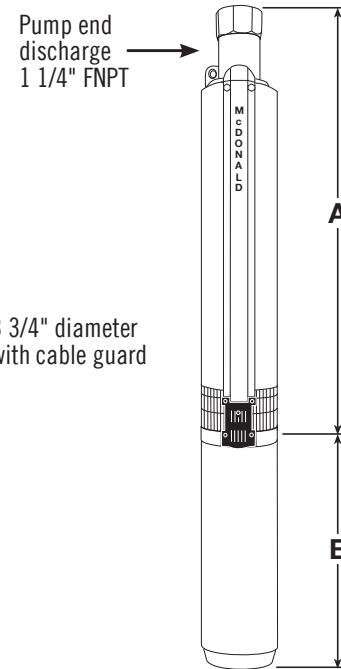
Part No.	Model No.	HP	Stages	Volt	A	B	WT.
6650-135	21050M2A	1/2	4	115	12.4"	13.4"	26
6650-134	21050M2	1/2	4	230	12.4"	13.0"	26
6650-141	21075M2	3/4	5	230	13.5"	13.8"	28
6650-145	21100M2	1	7	230	15.7"	16.8"	33
6650-149	21150M2	1 1/2	9	230	17.8"	18.5"	42

Three Wire** Single Phase

Part No.	Model No.	HP	Stages	Volt	A	B	WT.
6650-137	21050M3A	1/2	4	115	12.4"	9.5"	26
6650-136	21050M3	1/2	4	230	12.4"	10.5"	26
6650-142	21075M3	3/4	5	230	13.5"	11.3"	28
6650-146	21100M3	1	7	230	15.7"	13.6"	32
6650-150	21150M3	1 1/2	9	230	17.8"	16.2"	38
6650-153	21200M3	2	12	230	21.0"	16.2"	43
6650-156	21300M3	3	16	230	25.3"	21.4"	55
6650-159	21500M3	5	25	230	36.4"	26.9"	85

Three Wire** Three Phase

Part No.	Model No.	HP	Stages	Volt	A	B	WT.
6650-287	21150M3Z	1 1/2	9	230	17.8"	13.6"	34
6628-177	21200M3Z	2	12	230	21.0"	15.4"	40
6628-178	21300M3Z	3	16	230	25.3"	19.8"	48
6650-162	21500M3Z	5	25	230	36.4"	24.2"	71
6650-161	21500M3Y	5	25	460	36.4"	24.2"	71



4" No-Lead Brass Pump Ends

Part No.	Model No.	HP	WT.
6650-133	21050M	1/2	9
6650-140	21075M	3/4	9
6650-144	21100M	1	10
6650-148	21150M	1 1/2	11
6650-152	21200M	2	11
6650-155	21300M	3	14
6650-158	21500M	5	19

** All three wire pumps are available in three phase by selecting pump end and appropriate motor and starter kit (see pages 121-136).

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					

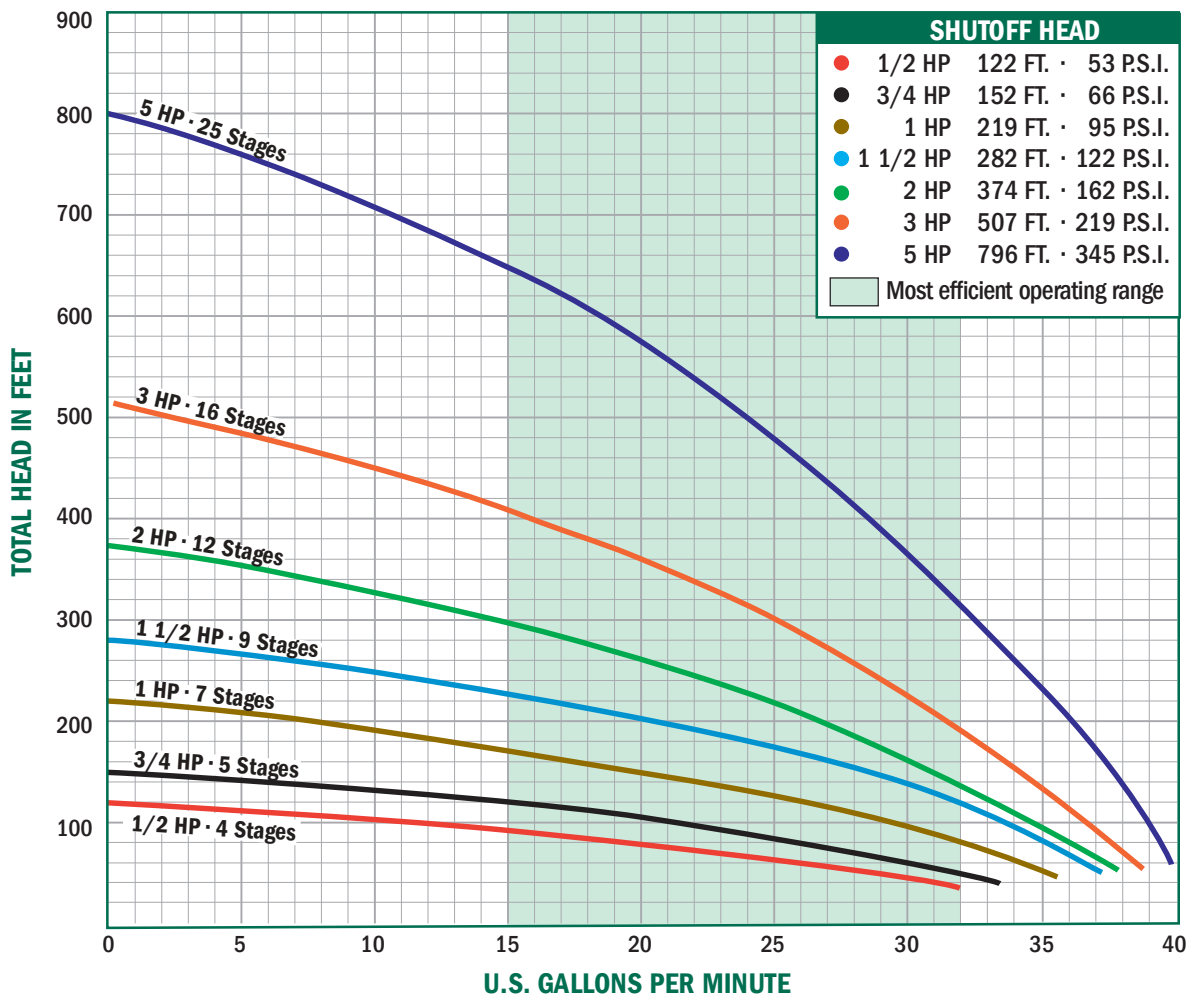
1 HP	PSI	25'	50'	75'	100'	125'	150'	175'	200'
	0	38.23	35.39	32.34	29.02	25.34	21.13	16.10	9.38
	30	29.81	26.22	22.15	17.35	11.16			
	40	26.50	22.48	17.75	11.71	1.28			
	50	22.80	18.14	12.24	2.61				
	60	18.53		3.73					

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

Submersible Pumps

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				