MYERS SUBMERSIBLES

MYERS Model- 12 GPM	1/2HP 2 &3 Wire 2ST & 3ST52-12P4		
Disc Pressure	40#	50#	60#
DEPTH TO WATER IN FEET 20		14.5	12.2
60	13.0	11.5	9.0
100	9.8	7.0	
125	7.0		
140			

MYERS Model- 12 GPM	3/4HP 2 &3 Wire 2ST & 3ST72-12P4		
Disc Pressure	40#	50#	60#
DEPTH TO WATER IN FEET 20			
60	15.5	14.5	13.0
100	13.4	12.2	11.0
125	12.0	10.2	8.9
150	10.0	8.5	
200			
250			
300			

MYERS Model- 12 GPM	1HP 2 &3 Wire 2ST & 3ST102-12P4		
Disc Pressure	40#	50#	60#
DEPTH TO WATER IN FEET 20			
60		16.0	15.0
100	15.3	14.5	13.0
125	14.3	13.0	12.0
150	13.0	12.2	10.2
200	10.5	9.2	
250	7.0		
300			

MYERS Model- 12 GPM	1-1/2HP 2 & 3 Wire 2ST & 3ST152-12P4		
Disc Pressure	40#	50#	60#
DEPTH TO WATER IN FEET 20			
60			
100			
125			
150		16.6	14.8
200	14.9	14.3	13.2
250	13.4	12.8	11.6
300	11.7	11.0	10.0

MYERS Model- 20 GPM	3/4HP 2 & 3 Wire 2ST & 3ST72-20P4		
Disc Pressure	40#	50#	60#
DEPTH TO WATER IN FEET 20	21.5	19.5	14.0
60	16.0		
80			
120			
160			
200			
240			
280			

MYERS Model- 20 GPM	1HP 2 &3 Wire 2ST & 3ST102-20P4		
Disc Pressure	40#	50#	60#
DEPTH TO WATER IN FEET 20	24.0	23.0	20.5
60	21.5	20.0	16.0
80	20.0	17.5	14.0
100	17.5	14.5	
140			
180			
220			

MYERS Model- 20 GPM	1-1/2 3 Wire 3ST152-20P4		
Disc Pressure	40#	50#	60#
DEPTH TO WATER IN FEET 40		24.5	22.9
60	24.5	23.5	22.0
80	23.5	22.5	21.0
100	22.5	21.5	19.2
140	20.0	18.5	14.1
180	16.5	14.5	
220	12.5		
260			

MYERS Model- 25 GPM	1-1/2HP 3 Wire 3ST152-25P4		
Disc Pressure	40#	50#	60#
DEPTH TO WATER IN FEET 20		30.0	26.0
60	26.6	22.8	17.5
80	23.1	19.0	
100	19.1		
120	15.0		
140			
160			
180			

RANGER Model- 25 GPM	2HP 3 Wire SS20-25		
Disc Pressure	40#	50#	60#
DEPTH TO WATER IN FEET 20			
60	37.4	35.2	30.0
100	33.3	30.4	21.0
125	30.1	26.6	15.0
150	26.3	22.4	
200	17.2	11.8	
250			
300			

RANGER Model- 25 GPM	3HP 3 Wire SS30-25		
Disc Pressure	40#	50#	60#
DEPTH TO WATER IN FEET 20			
60			
100			
125	36.2	34.4	30.0
150	34.3	32.2	26.1
200	29.7	27.3	20.0
250	24.2	21.3	
300	17.2	13.3	

RANGER Model- 35 GPM	2HP 3 Wire SS20-35		
Disc Pressure	40#	50#	60#
DEPTH TO WATER IN FEET 20	50.0	45.6	36.0
60	42.0	36.2	25.0
100	31.1	21.5	
125	20.5		
150			
200			
250			
300			

RANGER Model- 35 GPM	3HP 3 Wire-1Ph SS30-35		
Disc Pressure	40#	50#	60#
DEPTH TO WATER IN FEET 20	54.4	51.6	
60	49.6	46.8	40.0
100	44.4	40.6	30.0
125	40.3	35.9	
150	35.5	30.7	
200	23.6	14.1	
250			
300			

RANGER Model- 50 GPM	3HP 3 Wire-1Ph SS30-50		
Disc Pressure	40#	50#	60#
DEPTH TO WATER IN FEET 20	65.3	59.5	31.2
60	54.8	48.2	25.0
100	43.1	35.1	
125	34.4		
150			
200			
250			
300			

RANGER Model- 50 GPM	5HP 3 Wire-1Ph SS50-50		
Disc Pressure	40#	50#	60#
DEPTH TO WATER IN FEET 20		72.1	
60	69.7	66.3	38.0
100	63.6	59.8	35.0
125	59.5	55.6	31.0
150	55.3	51.4	27.9
200	46.7	42.3	
250	36.3	30.5	
300			

RANGER Model- 80 GPM	5HP 3 Wire-1Ph SS50-80		
Disc Pressure	40#	50#	60#
DEPTH TO WATER IN FEET 20	94.0	85.7	80.5
60	79.6	71.0	61.0
100	64.5	55.3	
125	54.6	45.0	
150	44.2		
200			
250			
300			

Myers -"QP" Sprinkler Pumps
"HJ" & "HR" Jet Pumps

MYERS Model- GPM		1HP QP Sprinkler QP10		
Disc Pressure		30#	35#	40#
DEPTH TO WATER IN FEET	10	40.5	33.0	19.0
	15	37.5	27.7	5.0
	20	33.6	20.5	
	25	29.0	10.0	

MYERS Model- GPM		1/2HP HJ Jet HJ50S & HJ50D		
Disc Pressure		30#	40#	50#
DEPTH TO WATER IN FEET	SW			
	5	14.5	10.0	5.5
	15	11.5	8.0	3.5
	25	7.0	6.0	2.0
	DW	30#		
	30	10.5		
	40	9.5		
	50	8.0		

MYERS Model- GPM		3/4HP HJ Jet HJ75S & HJ75D		
Disc Pressure		30#	40#	50#
DEPTH TO WATER IN FEET	SW			
	5	23.5	19.5	12.5
	15	17.5	16.5	9.0
	25	10.5	10.5	5.0
	DW	30#		
	50	10.0		
	60	8.0		
	70	7.0		

MYERS Model- GPM		1/2HP HR Jet HR50 SW - DW		
Disc Pressure		30#	40#	50#
DEPTH TO WATER IN FEET	SW			
	5	14.5	10.0	5.5
	15	11.5	8.0	3.5
	25	7.0	6.0	2.0
	DW	30#		
	30	10.0		
	40	8.0		
	50	7.0		

McDermott Classic 12GPM		1/2HP 2 & 3 Wire 2 & 3W52BA-J512P		
Disc Pressure		40#	50#	60#
DEPTH TO WATER IN FEET	20		14.5	13.1
	40	14.5	13.0	9.5
	60	13.0	11.5	8.9
	80	11.5	9.8	
	100	9.8		
	120	7.2		
	140			
	160			

McDermott Classic 12GPM		3/4HP 2 & 3 Wire 2 & 3W72BA-J712P		
Disc Pressure		40#	50#	60#
DEPTH TO WATER IN FEET	20			
	40		15.5	14.0
	60	15.5	14.5	13.1
	80	14.5	13.4	12.0
	100	13.4	12.2	10.2
	120	12.2	10.9	8.9
	140	10.9	9.4	
	160	9.4	7.5	

McDermott Classic 12GPM		1HP 2 & 3 Wire 2 & 3W102BA-J12P		
Disc Pressure		40#	50#	60#
DEPTH TO WATER IN FEET	80		15.3	14.2
	100	15.3	14.5	13.0
	120	14.5	13.5	11.9
	140	13.5	12.6	10.3
	160	12.6	11.6	10.0
	180	11.6	10.5	
	200	10.5	9.2	
	220	9.2	7.5	

Red Jacket Enduro 10GPM		1/2HP 2 &3 Wire 12S9		
Disc Pressure		40#	50#	60#
DEPTH TO WATER IN FEET	20	13.1	12.1	10.9
	60	12.3	10.0	8.7
	100	9.0	7.7	5.8
	120	7.9	6.1	2.7
	140	6.4	3.5	

Red Jacket Enduro 10GPM		3/4HP 2 &3 Wire 12S12		
Disc Pressure		40#	50#	60#
DEPTH TO WATER IN FEET	20	13.7	13.4	12.9
	60	13.0	12.4	11.0
	100	11.8	11.0	10.0
	120	11.1	10.2	9.3
	140	10.3	9.4	8.5
	180	8.7	7.8	6.5
	200	7.9	6.7	4.6

Red Jacket Grizzly 10GPM		1/2HP 2 & 3 Wire 50C211-12G9		
Disc Pressure		40#	50#	60#
DEPTH TO WATER IN FEET	20		12.0	11.5
	40	11.5	11.0	10.0
	60	10.5	9.0	8.5
	80	10.0	7.0	6.9
	100	9.0	5.0	
	120	7.5	4.0	
	140	6.0		
	160			

Red Jacket Grizzly 10GPM		3/4HP 2 & 3 Wire 75C211-12G12		
Disc Pressure		40#	50#	60#
DEPTH TO WATER IN FEET	40		14.0	12.5
	60	14.0	13.0	11.5
	80	13.0	11.5	10.3
	100	11.5	10.5	9.5
	120	10.5	10.0	8.5
	140	10.0	9.0	
	160	9.0	8.0	
	180	8.0	7.0	

2-WIRE AND 3-WIRE SINGLE PHASE MOTOR WIRE SIZING CHART

Pentek/CentriPro Motor Lead Lengths - 2 Wire Motors, Single Phase, 4" Motors
Based on Service Factor Amps, 30° C Ambient and 5% Voltage Drop

Motor Rating				60° C & 75° C Insulation - AWG Copper Wire Size									
Volts	**HP**	**KW**	**SFA**	**14**	**12**	**10**	**8**	**6**	**4**	**2**	**1/0**	**2/0**	**3/0**	**4/0**
115	1/2	0.37	9.5	115	183	293	463	721	1150	1825	2902	3662	4623	5824
230	1/2	0.37	4.7	466	742	1183	1874	2915	4648	7379	11733	14803	18688	23544
230	3/4	0.55	6.4	342	545	869	1376	2141	3413	5419	8617	10871	13724	17290
230	1	0.75	9.1	241	383	611	968	1506	2400	3811	6060	7646	9652	12160
230	1-1/2	1.1	11.0	199	317	505	801	1246	1986	3153	5013	6325	7985	10060

Pentek/CentriPro Motor Lead Lengths - 3 Wire Motors, Single Phase, 4" Motors
Based on Service Factor Amps, 30° C Ambient and 5% Voltage Drop

Motor Rating					60° C & 75° C Insulation - AWG Copper Wire Size												
Volts	**HP**	**KW**	**FLA**	**SFA**	**14**	**12**	**10**	**8**	**6**	**4**	**3**	**2**	**1**	**1/0**	**2/0**	**3/0**	**4/0**
115	1/2	0.37	11	12.6	87	138	221	349	544	867	1090	1376	1734	2188	2761	3485	4391
230	1/2	0.37	5.5	6.3	348	553	883	1398	2175	3467	4359	5505	6935	8753	11044	13942	17564
230	3/4	0.55	7.2	8.3	264	420	670	1061	1651	2632	3309	4178	5264	6644	8383	10582	13332
230	1	0.75	8.4	9.7	226	359	573	908	1413	2252	2831	3575	4504	5685	7173	9055	11408
230	1-1/2	1.1	9.7	11.1	197	314	501	793	1234	1968	2474	3124	3936	4968	6268	7913	9969
230	2	1.5	9.9	12.2	180	286	456	722	1123	1790	2251	2843	3581	4520	5703	7199	9070
230	3	2.2	TBD	TBD													
230	5	3.7	TBD	TBD													
230	7-1/2	7.5	TBD	TBD													

Cable Sizing for SQ/SQE Pumps

Volts	HP	Amps	14	12	10	8	6	4	2
115	1/2	12	140	220	360	550	880	1390	2260
230	1/2	5.2	640	1000	1660	2250	4060		
230	3/4	8.4	400	620	1030	1580	2510	3970	
230	1	11.2	300	460	770	1190	1890	2980	4850
230	1-1/2	12	280	430	720	1110	1760	2780	4530

Shaded lengths do not apply to the SQE as its maximum cable length with the GRUCU301 is 650 ft.

GRUNDFOS MOTOR CABLE SELECTION CHARTS

Single Phase Cable, 60 Hz (Service Entrance to Motor) Maximum Length In Feet

Motor Rating		Copper Wire Size								
Volts	HP	14	12	10	8	6	4	2	0	00
115	1/2	100	160	250	390	620	960	1460	2160	
	1/2	400	650	1020	1610	2510	3880	5880		
	3/4	300	480	760	1200	1870	2890	4370	6470	
	1	250	400	630	990	1540	2380	3610	5360	6520
230	1.5	190	310	480	770	1200	1870	2850	4280	5240
	2	150	250	390	620	970	1530	2360	3620	4480
	3	120	190	300	470	750	1190	1850	2890	3610
	5			180	280	450	710	1110	1740	2170
	7.5				200	310	490	750	1140	1410
	10					250	390	600	930	1160

GRUNDFOS SUBMERSIBLE MOTOR CABLE SELECTION CHARTS

Three (3) Phase Cable, 60 Hz (Service Entrance to Motor) Maximum Length In Feet

Motor Rating		Copper Wire Size												
Volts	HP	14	12	10	8	6	4	2	0	00	000	0000	250	300
	1-1/2	310	500	790	1260	-	-	-	-	-	-	-	-	-
	2	240	390	610	970	1520	-	-	-	-	-	-	-	-
	3	180	290	470	740	1160	1810	-	-	-	-	-	-	-
	5	-	170	280	440	690	1080	1660	-	-	-	-	-	-
208	7-1/2	-	-	200	310	490	770	1180	1770	-	-	-	-	-
	10	-	-	-	230	370	570	880	1330	1640	-	-	-	-
	15	-	-	-	-	250	390	600	910	1110	1340	-	-	-
	20	-	-	-	-	-	300	460	700	860	1050	1270	-	-
	25	-	-	-	-	-	-	370	570	700	840	1030	1170	-
	30	-	-	-	-	-	-	310	470	580	700	850	970	1110

Volts	HP	14	12	10	8	6	4	2	0	00	000	0000	250	300
	1-1/2	360	580	920	1450	-	-	-	-	-	-	-	-	-
	2	280	450	700	1110	1740	-	-	-	-	-	-	-	-
	3	210	340	540	860	1340	2080	-	-	-	-	-	-	-
	5	-	200	320	510	800	1240	1900	-	-	-	-	-	-
230	7-1/2	-	-	230	360	570	890	1350	2030	-	-	-	-	-
	10	-	-	-	270	420	660	1010	1520	1870	-	-	-	-
	15	-	-	-	-	290	450	690	1040	180	1540	-	-	-
	20	-	-	-	-	-	350	530	810	990	1200	1450	-	-
	25	-	-	-	-	-	280	430	650	800	970	1170	1340	-
	30	-	-	-	-	-	-	350	540	660	800	970	1110	1270

Volts	HP	14	12	10	8	6	4	2	0	00	000	0000	250	300
	1-1/2	1700	-	-	-	-	-	-	-	-	-	-	-	-
	2	1300	2070	-	-	-	-	-	-	-	-	-	-	-
	3	1000	1600	2520	-	-	-	-	-	-	-	-	-	-
	5	590	950	1500	2360	-	-	-	-	-	-	-	-	-
	7-1/2	420	680	1070	1690	2640	-	-	-	-	-	-	-	-
	10	310	500	790	1250	1960	3050	-	-	-	-	-	-	-
	15	-	-	540	850	1340	2090	3200	-	-	-	-	-	-
	20	-	-	410	650	1030	1610	2470	3730	-	-	-	-	-
460	25	-	-	-	530	830	1300	1990	3010	3700	-	-	-	-
	30	-	-	-	430	680	1070	1640	2490	3060	3700	-	-	-
	40	-	-	-	-	-	790	1210	1830	2250	2710	3290	-	-
	50	-	-	-	-	-	640	980	1480	1810	2190	2650	3010	-
	60	-	-	-	-	-	-	830	1250	1540	1850	2240	2540	2890
	75	-	-	-	-	-	-	-	1030	1260	1520	1850	2100	2400
	100	-	-	-	-	-	-	-	-	940	1130	1380	1560	1790
	125	-	-	-	-	-	-	-	-	-	-	1080	1220	1390
	150	-	-	-	-	-	-	-	-	-	-	-	1050	1190
	200	-	-	-	-	-	-	-	-	-	-	-	1080	1300
	250	-	-	-	-	-	-	-	-	-	-	-	-	1080

Note: The section of the total cable between the service entrance and a 3 Phase motor starter *should not exceed* 25% of the total maximum length.

SIZING A PUMP USING FLUSH TANK FIXTURE WEIGHT UNITS FOR PRIVATE HOME

If you are not sure how to Size a Pump according to the Job Requirements, here is a way suggested by the State of Wis. It is based on standard toilets, and typical residential kitchen, laundry and utility consumption. Fixture Weight Units are assigned each plumbing fixture, or Group of fixtures, for both Hot and Cold water usage. The individual Weight Units are totaled, and that sum is converted into gallons per minute (GPM) as shown below. Apply this required gallons per minute (GPM) capacity to the pumping Water Level, at Cut-out pressure switch setting, and you will have the pump size required. Friction Loss must be considered on jobs with extensive discharge piping.

One Bathroom Group W/Tub or Shower	4.0 Units
Kitchen Sink	1.5
Laundry Tray	1.5
One 3/4" Hose Bibb	1.5
Separate Flush Tank Toilet	4.0
Separate Lavatory	2.0
Total Fixture Weight Units This Example	1.0 Units
	15.5

It Takes	3.0	GPM to Supply	3 Fixture Units
	4.5		5
	8.0		10
	14.0		20
	20.0		30

Capacity to Fixture Weights not shown may be calculated by interpolation.

Wis Code allows a maximum 15 Fixture Weight Units on 3/4" Type 'K' Copper tube , and a maximum 30 Units on 1" 'K' Copper tube. Both depend on the offset piping distance from well to house. 3/4" is the minimum size that can be used legally.

Tips on Selecting A Water Well Pump

1. Determine capacity requirements expressed in gallons per minute (GPM).
2. Choose a pump series rated for your capacity requirements (e.g. 10GPM, 12GPM, 20GPM, 25GPM)
3. Determine needed discharge pressure (e.g. 30/50 Switch = 40# Discharge Pressure, 40/60 Switch = 50# Discharge Pressure, etc.).
4. Calculate pumping level -- expressed as "Depth to Water in Feet" on our Capacity Tables.
5. Add in any unique job characteristics (e.g. excessive friction loss, water treatment equipment, valves, elevation, etc.) that may modify your pump selection by increasing head or capacity requirements.
6. Choose the pump from our Capacity Tables using:
   1. Capacity
   2. Depth to Water
   3. Discharge Pressure

If you have any further questions, please contact your nearest McDermott Pump Location!

To Size a Sewage or Effluent Pump Job

You Need To Know:

1. Size Solids To Be Handled-3/4" effluent or 2" sewage.
2. Capacity required. (Est. 20GPM for 1 Bath or 30GPM for 2 Bath)
3. Total Head in Feet. Vertical Elevation + Friction Loss = Total Head.
4. Are Receiver Basin & Cover Required? Or is Existing Size OK?
5. Power: 115V or 230V. Single or Three Phase.
5. Discharge Pipe Size
7. Simplex or Duplex System. Duplex if continous service is needed.

TANK SIZING:

A minimum 1 to 2 minute rest between pump cycles is recommended in order to "cool" pump motor windings - a key determinant of motor life. The chart to the right displays the pre-charged pressure tank makes and models McDermott's stocks and sells. In addition it shows the gallons of drawdown – the amount of water supplied by the tank at either 30/50 or 40/60 pressure switch settings. By comparing a tank's drawdown with the gallons per minute your pump will produce you can determine the minutes of run time needed to fill the tank at the selected pressure setting. If your pump is a standard domestic well pump producing 10 gallons per minute, select a tank that will supply at least that much water in drawdown to ensure the pump rests for at least one (1) minute between pump cycles. In this example the McDermott DPT-36E which supplies 11.2 gallons of water at a 30/50 pressure switch setting would be an excellent choice for a pump producing 10 gallons per minute. Larger horsepower pumps – over 2HP – should have at least two (2) minutes of rest time regardless of pump gallons per minute.

MODEL	MAKE	30/50	40/60
WM-6	WellMate	5.9	5.1
DPT-20E	McDermott	6.2	5.4
WX202DG	Amtrol	6.8	5.9
GOUV60	Goulds	6.1	5.3
WM-9	WellMate	8.9	7.7
DPT-32E	McDermott	9.6	8.4
WX203DG	Amtrol	10.9	9.4
GOUV100	Goulds	9.9	8.6
WX202XLDG	Amtrol	8.8	7.6
DPT-36E	McDermott	11.2	9.7
WM-12	WellMate	12.1	10.5
WX250DG	Amtrol	15.0	12.9
GOUV140	Goulds	13.9	12.1
WM-14WB	WellMate	14.1	12.3
WM-20WB	WellMate	18.0	15.6
DPT-52E	McDermott	16.1	14.0
WX251DG	Amtrol	21.1	18.2
WX255DG	Amtrol	27.5	23.8
WM-25WB	WellMate	26.0	22.5
WX302DG	Amtrol	29.2	35.4
WM-35WB	WellMate	35.9	31.1
DPT-119E	McDermott	37.0	32.3
WX350DG	Amtrol	40.5	35.0

USEFUL RULES

1 Acre Inch per 24 hours = 19.0 GPM
1 Acre Foot per 24 hours = 227.0 GPM
1 Acre = { 43,560 sq. ft. / 106 sq. rods

- TO CONVERT POUNDS PRESSURE TO FEET HEAD MULTIPLY BY 2.31
- TO CONVERT FEET HEAD TO POUNDS PRESSURE MULTIPLY BY .433.

WEIGHT LOAD FACTORS
Approximate Weight of Water* and Pipe - per Foot

Type of Drop Pipe	Nominal Size of Pipe (Inches)	Pipe ID (Inches)	Water Volume per Foot (Cu. In.)	Approx. Water Wt. per Foot (lbs.)	Approx. Pipe Wt. per Foot (lbs.)	Approx. Total Wt. per Foot (lbs.)
160 PSI	1	1.049	10.37	0.38	0.26	0.64
Polyethylene	1-1/4	1.380	17.95	0.65	0.43	1.08
Schedule	1	0.957	8.63	0.31	0.40	0.71
80	1-1/4	1.278	15.39	0.56	0.55	1.11
PVC	1-1/2	1.500	21.21	0.77	0.66	1.43
	2	1.939	35.43	1.28	0.92	2.20
Schedule	1	1.049	10.37	0.38	1.68	2.06
40	1-1/4	1.380	17.95	0.65	2.28	2.93
PVC	1-1/2	1.610	24.43	0.88	2.73	3.61
	2	2.067	40.27	1.45	3.68	5.13

*1 Cubic Foot Water = 62.4 Lbs. 1 Cubic Inch Water = .036 Lbs.

ShurAlign Pipe Guide

Size	GPM	Weight Pump/Wire	Depth	Pump Size	Wire Size
1"	12	90 Pounds	530'	Up to 1HP	12
1-1/4"	25	200 Pounds	450'	Up to 3HP	10 & 12
1-1/2"	35	200 Pounds	410'	Up to 3HP	10 & 12
2"	70	300 Pounds	360'	Up to 5HP	8, 10 & 12

These are recommendations based on the manufacturer's specifications. Please consult the manufacturer or A.I. McDermott Co., Inc. at (920) 231-7080 if the job requirements exceed these parameters.

WATER CAPACITY PER FOOT OF PIPE

Pipe Size	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	3-1/2"	4"	5"	6"
Gallons Per Foot	.016	.023	.040	.063	.102	.17	.275	.39	.53	.69	1.1	1.5

Loss Of Head In Feet Due To Friction, Per 100 Feet Of New Steel Pipe.

Double the Loss Calculated if Pipe is 17 Years or More Old, or has an Iron Build-up. Lower the New Steel Pipe Calculated Loss by 10% if Plastic Pipe is Used.

GPM	GPH	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"
2	120	4.8							
3	180	10.0	2.5						
4	240	17.1	4.2						
5	300	25.8	6.3	1.9					
6	360	36.5	8.9	2.7					
7	420	48.7	11.8	3.6					
8	480	62.7	15.0	4.5					
9	540	78.3	18.8	5.7					
10	600	95.9	23.0	6.9	1.8				
12	720		32.6	9.6	2.5	1.2			
14	840		43.5	12.8	3.3	1.5			
16	960		56.3	16.5	4.2	2.0			
20	1,200		86.1	25.1	6.3	2.9			
25	1,500			38.7	9.6	4.5	1.3		
30	1,800			54.6	13.6	6.3	1.8		
35	2,100			73.3	18.2	8.4	2.4		
40	2,400			95.0	23.5	10.8	3.1	1.3	
45	2,700				29.4	13.5	3.9	1.6	
50	3,000				36.0	16.4	4.7	1.9	
60	3,600				51.0	23.2	6.6	2.7	
70	4,200				68.8	31.3	8.9	3.6	1.2
80	4,800				89.2	40.5	11.4	4.6	1.6
90	5,400					51.0	14.2	5.8	2.0
100	6,000					62.2	17.4	7.1	2.4

3 PHASE - 4" & 6" MOTOR CHART

MOTORS -		GRUNDFOS		PENTEK/CENTRI PRO		
	HP	VOLTAGE	MAX. AMPS*	RESISTANCE	RATED AMPS	SERVICE FACTOR	RESISTANCE
4" MOTORS	1	230	-	-	4.6	5.5	3.4 - 3.9
	1-1/2	200	-	-	6.3	7.2	1.9 - 2.5
		230	7.3	3.9	5.2	6.1	2.8 - 3.4
	2	200	-	-	7.5	8.8	1.4 - 2.0
		230	8.7	3.0	6.5	7.6	1.8 - 2.4
	3	200	-	-	10.9	12.0	0.9 - 1.3
		230	12.2	2.2	9.2	10.1	1.3 - 1.7
	5	200	-	-	18.3	20.2	0.4- 0.8
		230	19.8	1.2	15.7	17.5	0.85 - 1.25
	7-1/2	230	25.0	0.84	24.0	26.4	0.55 - 0.85

* "MAX. AMPS" is equivalent to "SERVICE FACTOR" amps

	HP	VOLTAGE	MAX. AMPS*	RESISTANCE	RATED AMPS	SERVICE FACTOR	RESISTANCE
6" MOTORS	10	230	34.0	0.41	29.0	33.0	0.448
		460	17.0	1.8	14.5	16.5	1.169
	15	230	49.0	0.25	42.0	46.0	0.312
		460	24.5	1.16	21.0	23.0	1.07
	20	460	33.0	0.80	27.0	30.0	0.861
	25	460	41.0	0.62	34.0	37.0	0.666
	30	460	46.5	0.55	41.0	47.0	0.554
	40	460	64.0	0.39	53.0	60.0	0.446

* "MAX. AMPS" is equivalent to "SERVICE FACTOR" amps

PUMP END SELECTION CHART
30/50 Pressure Tank Setting

RANGER PUMP ENDS

			Depth to Water in Feet																						
MODEL	HP	GPM	0	20	40	60	80	100	120	140	160	180	200	250	300	350	400	450	500	550	600	650	700	750	800	850
SS10-25	1	25	30	27	22	17	12																			
SS15-25	1-1/2	25	36	33	30	27	23	20	15																	
SS20-25	2	25			38	36	33	31	27	24	20	16														
SS30-25	3	25							36	34	32	30	28	22	15											
SS50-25	5	25											38	36	33	30	27	24	21	16						
SS75-25	7-1/2	25														39	37	36	34	32	29	27	24	22	18	15
SS10-35	1	35	25																							
SS15-35	1-1/2	35	42	34	26	15																				
SS20-35	2	35		50	46	40	33	26	16																	
SS30-35	3	35				49	45	42	37	33	26	21	15													
SS50-35	5	35								49	47	45	43	36	28	18										
SS75-35	7-1/2	35													49	46	43	38	34	30	24	16				
SS15-50	1-1/2	50	55	45	34	20																				
SS20-50	2	50	64	55	47	40	29																			
SS30-50	3	50	70	64	60	55	49	44	35	29																
SS50-50	5	50				70	66	64	60	57	54	50	46	36	23											
SS75-50	7-1/2	50									67	65	63	58	53	46	40	32								
SS20-80	2	80	58	40																						
SS30-80	3	80	81	71	60	48	37																			
SS50-80	5	80	100	94	88	80	72	62	58	50	40															
SS75-80	7-1/2	80			104	100	96	90	87	82	78	72	67	52	39											