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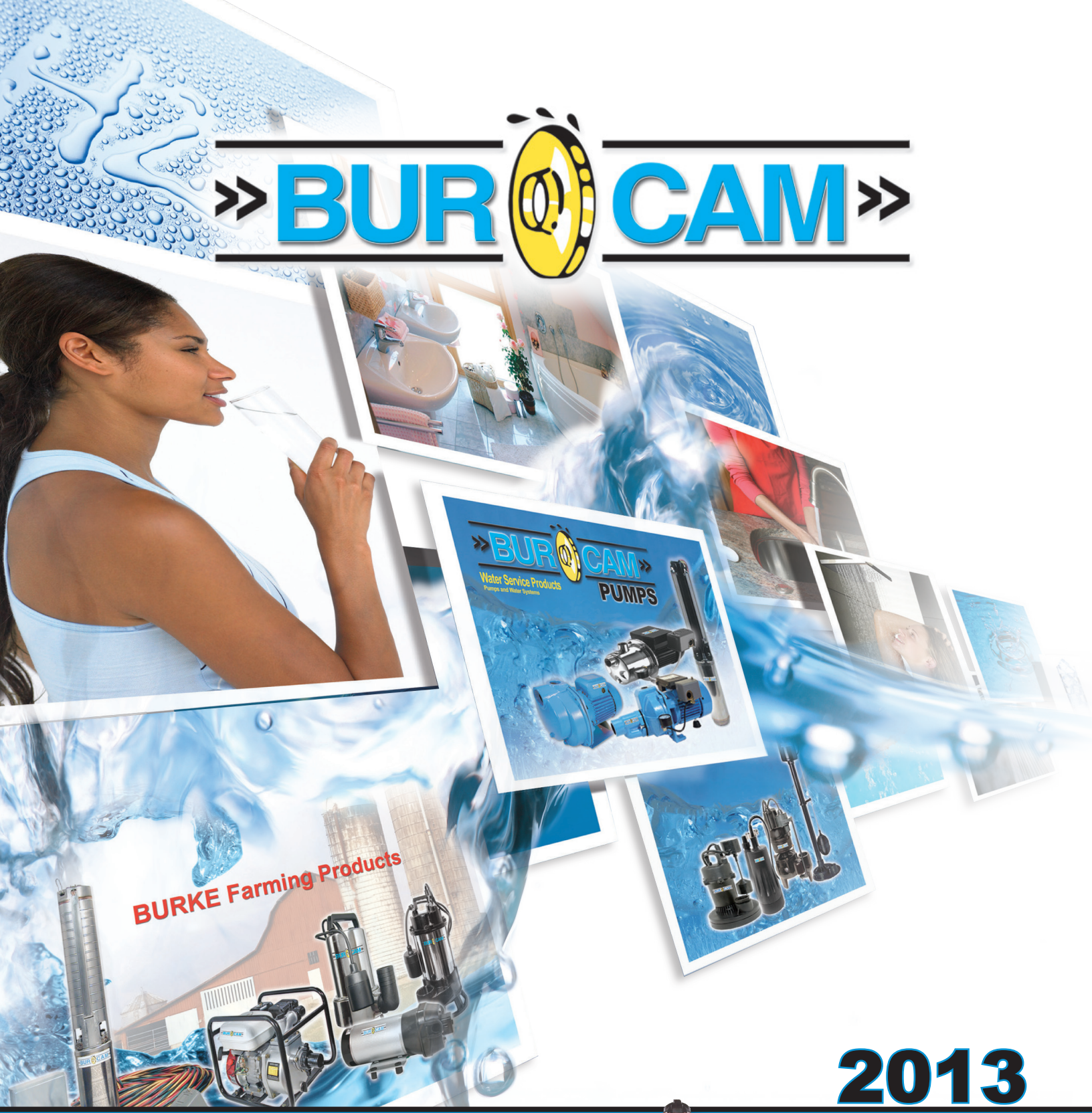


2013

Water Service Products
Pumps and Water Systems

Technical catalogue

4” SUBMERSIBLE DEEP WELL PUMPS

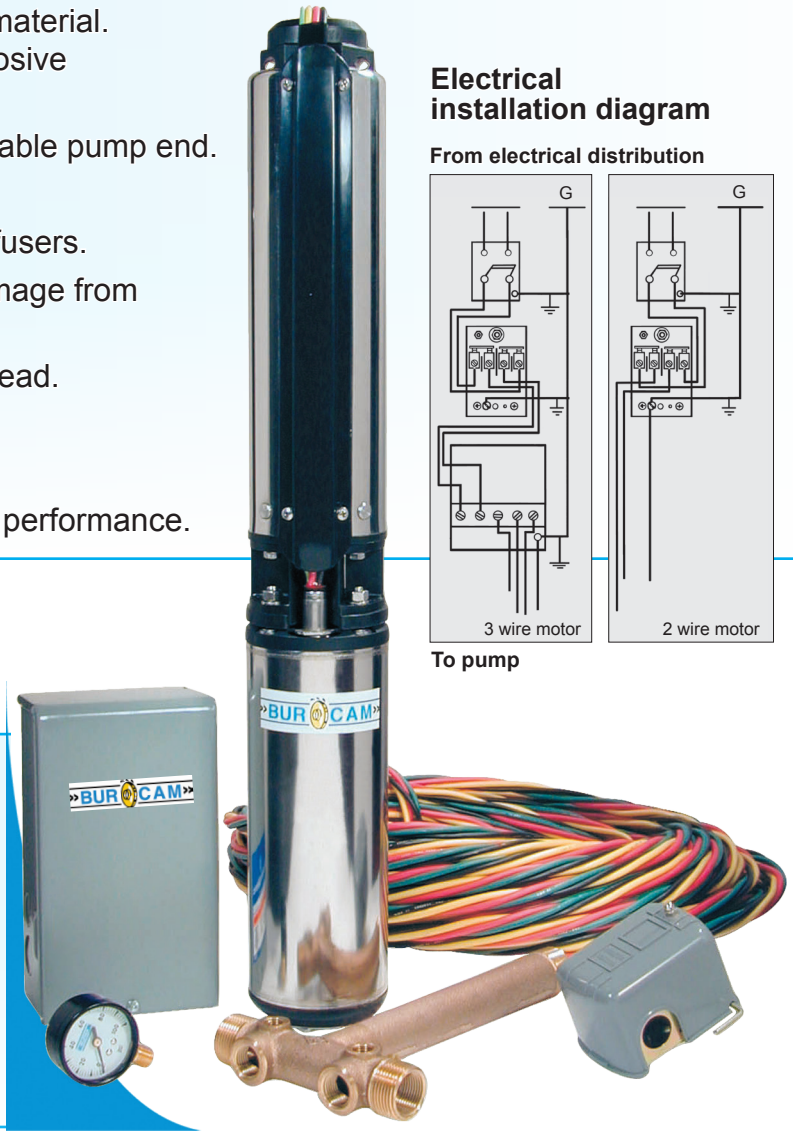
WARRANTY 2 YEARS

10 GPM

Recommended for homes, cottages and farms for installation in water wells which are 4" or larger in diameter.

3450 RPM motor, 2 or 3 wires with external ground wire, 115V or 230V, 1 PH, 60Hz, thermally protected. Built-in lightning arrestor.

- Made of non-corrosive 304 stainless steel material.
- Suction and discharge made from non corrosive resistant polypropylene.
- NEMA standard stainless steel interchangeable pump end.
- Built-in spring loaded check valve.
- Precision machined Noryl impellers and diffusers.
- Built-in suction screen to prevent pump damage from abrasive material.
- Large cable guard to accommodate motor lead.
- Built-in safety rope adaptor.
- 1 1/4” stainless steel threaded insert.
- Manufactured for long term endurance and performance.



Electrical installation diagram

From electrical distribution

To pump

SUB-PAC VERSION CONTAINS:

- Submersible pump.
- Control box (for 3 wire motor).
- Splice kit.
- Submersible cable attached to motor lead.
- Pressure gauge.
- LOP pressure switch.
- Bronze tank tee.

* NOT INCLUDED AND RECOMMENDED:
- Suspension cable
- Well cap
- Torque arrestor
- Pressure relief valve
- Pitless adaptor

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1 800 361-1820

4” SUBMERSIBLE DEEP WELL PUMPS

WARRANTY 2 YEARS

10 GPM

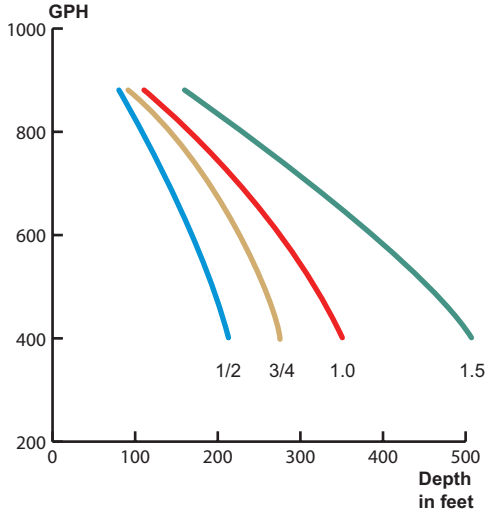
Performance Charts

HP	PSI	20'	40'	60'	80'	100'	120'	140'	160'	180'	200'	225'	250'	275'	300'	325'	350'	400'	450'	500'	550'	600'
1/2	0				890	840	770	690	640	555	450	300										
	20		875	819	746	675	615	524	414	288												
Best efficiency	30	868	809	734	668	602	508	396	252													
20/40 70'@118'	40	798	722	660	589	492	378	216														
30/50 47'@97'	50	710	653	576	476	360	180														USGPH	
3/4	0				890	865	830	800	760	720	670	610	530	400								
	20		883	855	821	788	748	705	656	607	543	421	232									
Best efficiency	30	879	849	817	782	742	698	648	597	533	431	248										
20/40 92'@173'	40	844	812	776	736	690	641	588	520	416	264											
30/50 69'@150'	50	808	770	730	683	634	578	504	400	240	80										USGPH	
1.0	0							840	815	790	755	710	660	605	550	490	410	320				
	20					833	808	780	744	708	668	614	559	500	423	372	327	164				
Best efficiency	30					804	774	739	702	662	618	563	504	429	376	331	255					
20/40 125'@217'	40					769	733	696	656	612	568	509	436	379	334	262	177					
30/50 102'@194'	50					728	690	649	605	561	514	442	383	338	269	184					USGPH	
1.5	0								880	860	845	825	795	760	725	690	655	600	515	420		
	20							856	840	824	800	766	731	696	661	632	604	522	428	218		
Best efficiency	30							838	820	796	768	733	698	663	634	607	568	479	336	124		
20/40 200'@390'	40							817	792	764	736	701	666	636	609	571	529	435	235			
30/50 177'@367'	50							788	760	732	704	669	639	611	575	532	487	354			USGPH	

* Friction loss in pipe not included

Ordering information

MODEL	HP	Stages	Volts	Wire	Motor lead
105335ST	1/2	6	115	2	48"
105305ST	1/2	6	115	3	48"
105337ST	1/2	6	230	2	48"
105307ST	1/2	6	230	3	48"
105561ST	1/2	6	230	2	s-pac 150'
105551ST	1/2	6	230	3	s-pac 150'
105339ST	3/4	8	230	2	48"
105309ST	3/4	8	230	3	48"
105362ST	3/4	8	230	2	s-pac 200'
105352ST	3/4	8	230	3	s-pac 200'
105333ST	1.0	11	230	2	48"
105313ST	1.0	11	230	3	48"
105363ST	1.0	11	230	2	s-pac 200'
105353ST	1.0	11	230	3	s-pac 200'
105336ST	1.5	17	230	2	48"
105316ST	1.5	17	230	3	48"



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1 800 361-1820

4” SUBMERSIBLE DEEP WELL PUMPS

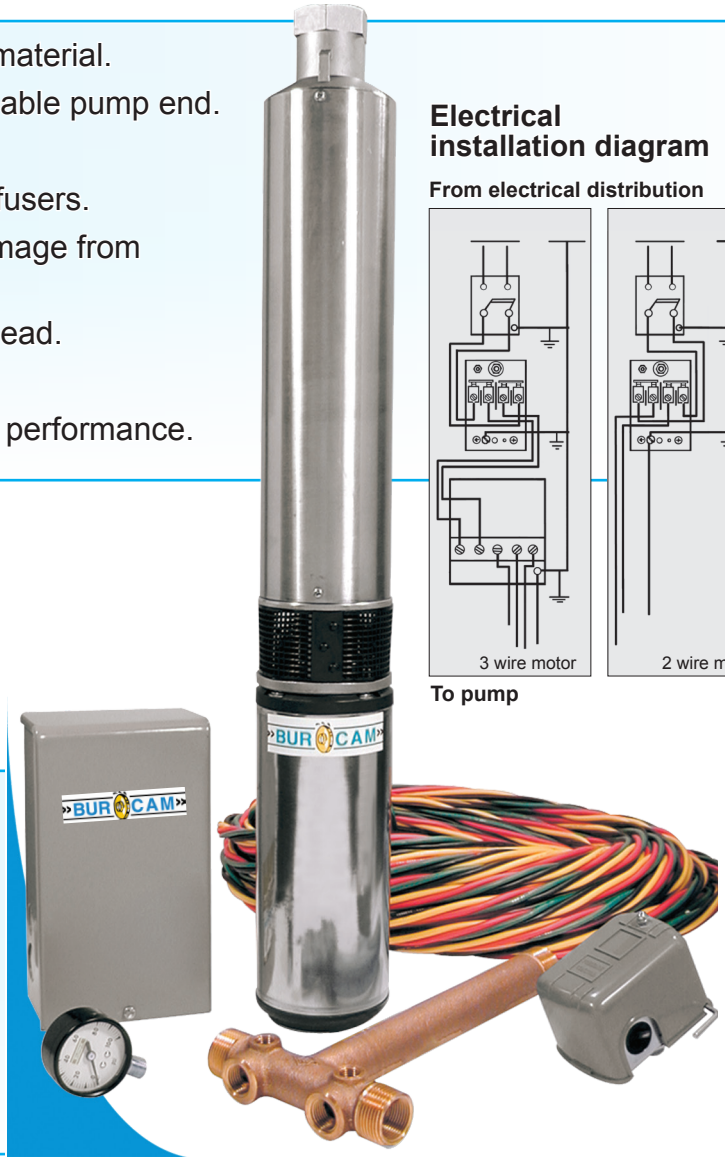
WARRANTY 2 YEARS

5, 7, 10, 25, 55, 85 GPM

Recommended for homes, cottages and farms for installation in water wells which are 4" or larger in diameter.

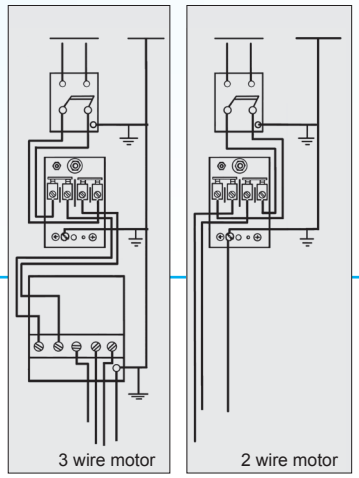
3450 RPM motor, 2 or 3 wires with external ground wire, 115V or 230V, 1 PH, 60Hz, thermally protected. Built-in lightning arrestor.

- Made of non-corrosive 316 stainless steel material.
- NEMA standard stainless steel interchangeable pump end.
- Built-in check valve.
- Precision machined Noryl impellers and diffusers.
- Built-in suction screen to prevent pump damage from abrasive material.
- Large cable guard to accommodate motor lead.
- Built-in safety rope adaptor.
- Manufactured for long term endurance and performance.



Electrical installation diagram

From electrical distribution



To pump

SUB-PAC VERSION CONTAINS:

- Submersible pump.
- Control box (for 3 wire motor).
- Splice kit.
- Submersible cable attached to motor lead.
- Pressure gauge.
- LOP pressure switch.
- Bronze tank tee.

* NOT INCLUDED AND RECOMMENDED:
- Suspension cable
- Well cap
- Torque arrestor
- Pressure relief valve
- Pitless adaptor

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1 800 361-1820

4” SUBMERSIBLE DEEP WELL PUMPS

WARRANTY 2 YEARS

5 GPM

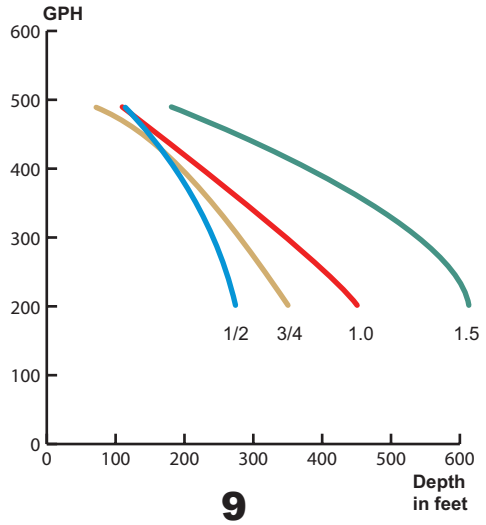
Performance Charts

HP	PSI	20'	40'	60'	80'	100'	120'	140'	160'	180'	200'	225'	250'	275'	300'	325'	350'	400'	450'	500'	550'	600'
1/2	0				520	500	480	460	440	420	400	360	320	280	200	75						
	20			494	474	454	434	414	390	358	326	286	213	95								
Best efficiency	30			471	451	431	411	386	354	322	290	219	105									
20/40 126'@191'	40			448	428	408	381	349	317	285	226	115										
30/50 103'@168'	50			425	405	376	344	312	280	216	125											USGPH
3/4	0					470	460	450	435	420	400	370	340	310	270	240	200	135				
	20					446	431	414	393	369	345	315	276	245	206	173	140					
Best efficiency	30					428	411	389	365	341	317	280	247	210	175	143						
20/40 153'@201'	40					408	386	362	338	314	283	250	213	178	145							
30/50 130'@178'	50					382	358	334	310	278	252	216	181	148								USGPH
1.0	0								450	435	420	405	385	365	345	320	295	250	200	140	75	
	20								416	404	388	368	348	324	299	276	254	204	145			
Best efficiency	30								402	386	370	350	326	301	278	255	231	177	115			
20/40 171'@307'	40								383	367	351	328	303	280	257	233	208	150				
30/50 148'@284'	50								365	349	330	305	282	259	235	210	182	121				USGPH
1.5	0									490	480	470	460	450	440	430	410	390	370	335	300	250
	20									470	462	452	442	432	413	402	392	372	338	303	254	209
Best efficiency	30									460	452	442	432	415	402	392	382	357	322	281	233	188
20/40 326'@509'	40									451	443	433	416	403	393	383	373	341	306	258	212	167
30/50 303'@486'	50									442	434	418	404	394	384	374	360	325	285	237		USGPH

* Friction loss in pipe not included

Ordering information

MODEL	HP	Stages	Volts	Wire	Motor lead
105130	1/2	13	115	2	48"
105125	1/2	13	115	3	48"
105132	1/2	13	230	2	48"
105127	1/2	13	230	3	48"
105191	1/2	13	230	2	s-pac 200'
105101	1/2	13	230	3	s-pac 200'
105142	3/4	18	230	2	48"
105135	3/4	18	230	3	48"
105195	3/4	18	230	2	s-pac 250'
105105	3/4	18	230	3	s-pac 250'
105144	1.0	22	230	2	48"
105145	1.0	22	230	3	48"
105153	1.5	30	230	2	48"
105154	1.5	30	230	3	48"



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1 800 361-1820

4” SUBMERSIBLE DEEP WELL PUMPS

WARRANTY 2 YEARS

7 GPM

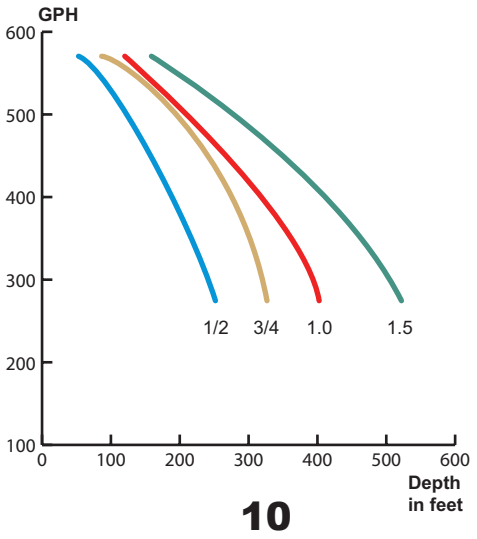
Performance Charts

HP	PSI	40'	60'	80'	100'	120'	140'	160'	180'	200'	225'	250'	275'	300'	325'	350'	400'	450'	500'	550'	600'	650'
1/2	0			540	530	505	475	450	420	385	330	275	210	130								
	20	537	523	496	468	441	410	372	328	284	220	143										
Best efficiency	30	519	492	464	437	404	365	321	277	226	149											
20/40 32'@124'	40	487	460	432	399	359	315	270	218	156												
30/50 9'@101'	50	456	428	394	352	308	262	210	146													USGPH
3/4	0			580	570	560	550	530	515	500	470	430	390	350	275	180						
	20			557	544	526	511	493	468	436	396	356	287	195	136	83						
Best efficiency	30			541	523	508	489	464	432	400	360	293	203	140	88							
20/40 85'@205'	40			521	506	486	459	427	395	363	299	210	144	92								
30/50 62'@182'	50			504	482	454	422	390	358	305	218	149	96									USGPH
1.0	0					570	555	540	520	500	480	460	440	420	380	320	265	145				
	20					534	514	495	479	463	443	423	386	330	297	269	155					
Best efficiency	30					511	493	477	461	445	425	390	334	299	272	219						
20/40 101'@222'	40					490	474	458	442	426	393	339	301	274	224	164						
30/50 78'@199'	50					472	456	440	424	396	344	304	276	229	169							USGPH
1.5	0							570	560	550	535	520	505	485	460	440	415	370	310	240		
	20							546	534	522	507	488	464	443	430	417	374	315	246	166		
Best efficiency	30							533	521	509	490	466	445	431	418	398	347	283	210	122		
20/40 153'@373'	40							519	507	491	468	446	432	419	400	377	320	251	173			
30/50 130'@350'	50							505	489	470	448	433	420	402	379	352	289	216				USGPH

* Friction loss in pipe not included

Ordering information

MODEL	HP	Stages	Volts	Wire	Motor lead
105113	1/2	10	115	2	48"
105114	1/2	10	115	3	48"
105131	1/2	10	230	2	48"
105163	1/2	10	230	3	48"
105208	1/2	10	230	2	s-pac 200'
105108	1/2	10	230	3	s-pac 200'
105141	3/4	13	230	2	48"
105143	3/4	13	230	3	48"
105209	3/4	13	230	2	s-pac 250'
105109	3/4	13	230	3	s-pac 250'
105173	1.0	17	230	2	48"
105174	1.0	17	230	3	48"
105182	1.5	22	230	2	48"
105183	1.5	22	230	3	48"



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1 800 361-1820

4” SUBMERSIBLE DEEP WELL PUMPS

WARRANTY 2 YEARS

10 GPM

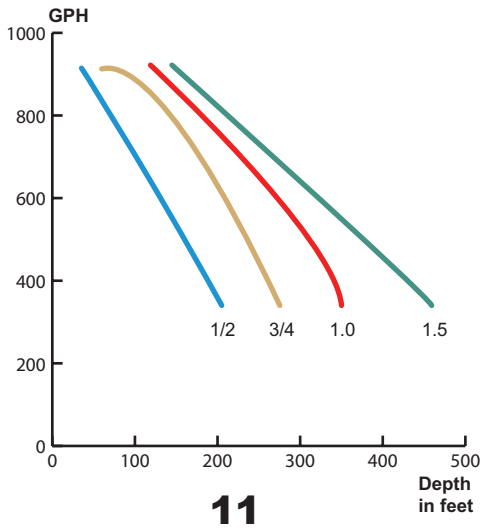
Performance Charts

HP	PSI	20'	40'	60'	80'	100'	120'	140'	160'	180'	200'	225'	250'	275'	300'	325'	350'	400'	450'	500'	550'	600'
1/2	0			840	780	710	650	570	490	420	350	260	100									
	20	822	759	692	626	546	469	399	328	254	126											
Best efficiency	30	749	683	614	534	459	389	318	234	106												
20/40 27'@81'	40	674	602	522	448	378	307	215	92													
30/50 5'@58'	50	590	510	438	368	296	196	80														USGPH
3/4	0			915	910	900	860	810	755	700	640	550	445	335								
	20	914	907	888	845	794	739	682	618	546	462	353	238									
Best efficiency	30	906	882	838	785	730	673	608	533	449	361	248										
20/40 98'@157'	40	876	830	777	722	664	597	521	436	348	257											
30/50 75'@134'	50	823	769	714	655	586	508	423	335	243												USGPH
1.0	0					955	920	880	830	790	750	700	650	600	540	440	340	220				
	20					865	818	778	738	698	658	608	550	456	356	290	230					
Best efficiency	30					812	772	732	692	652	612	554	464	364	294	234						
20/40 129'@229'	40					766	726	686	646	606	559	472	372	299	239							
30/50 106'@206'	50					720	680	640	600	552	480	380	304	244								USGPH
1.5	0							930	900	860	820	780	730	690	645	590	530	460	360	230		
	20							848	810	778	738	696	652	599	540	501	466	368	240			
Best efficiency	30							806	772	732	700	656	603	544	503	468	422	311				
20/40 166'@311'	40							766	727	695	659	608	549	506	471	426	376	251				
30/50 143'@288'	50							722	690	654	612	554	509	474	430	380	321					USGPH

* Friction loss in pipe not included

Ordering information

MODEL	HP	Stages	Volts	Wire	Motor lead
105124	1/2	6	115	2	48"
105126	1/2	6	115	3	48"
105133	1/2	6	230	2	48"
105128	1/2	6	230	3	48"
105203	1/2	6	230	2	s-pac 200'
105103	1/2	6	230	3	s-pac 200'
105134	3/4	8	230	2	48"
105136	3/4	8	230	3	48"
105207	3/4	8	230	2	s-pac 250'
105107	3/4	8	230	3	s-pac 250'
105150	1.0	11	230	2	48"
105146	1.0	11	230	3	48"
105161	1.5	15	230	2	48"
105155	1.5	15	230	3	48"



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1 800 361-1820

4” SUBMERSIBLE DEEP WELL PUMPS

WARRANTY 2 YEARS

25 GPM

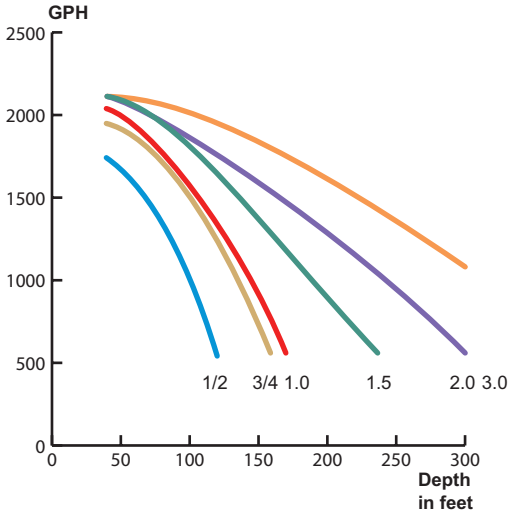
Performance Charts

HP	PSI	20'	40'	60'	80'	100'	120'	140'	160'	180'	200'	225'	250'	275'	300'	325'	350'	400'
1/2	0		1740	1580	1360	990	540	60										
	20	1514	1249	855	396													
Best efficiency	30	1194	788	324														
20/40 0'@50'	40	720	252															
30/50 0'@30'	50	180																USGPH
3/4	0		1950	1850	1700	1500	1200	900	520	40								
	20	1805	1640	1410	1110	786	376											
Best efficiency	30	1610	1365	1065	729	304												
20/40 10'@90'	40	1320	1020	672	232													
30/50 0'@50'	50	975	615	160														USGPH
1.0	0		2040	1930	1800	1620	1350	1050	720	400	60							
	20	1891	1746	1539	1260	951	624	298										
Best efficiency	30	1719	1499	1215	902	576	247											
20/40 12'@90'	40	1458	1170	852	528	196												
30/50 5'@65'	50	1125	803	480	145													USGPH
1.5	0		2100	2070	1980	1800	1590	1430	1260	1080	900	660	400					
	20	2043	1926	1737	1542	1379	1206	1026	842	650	442							
Best efficiency	30	1899	1706	1518	1354	1179	999	814	618	410								
20/40 15'@135'	40	1674	1494	1328	1152	972	785	587	368									
30/50 10'@110'	50	1470	1303	1125	945	756	556	320										USGPH
2.0	0		2100	2050	1970	1880	1780	1670	1570	1460	1330	1150	960	760				
	20	2026	1943	1850	1747	1640	1537	1421	1287	1142	990	792	575					
Best efficiency	30	1930	1835	1731	1625	1521	1402	1265	1120	968	808	593						
20/40 18'@190'	40	1820	1714	1610	1504	1382	1244	1097	944	784	610							
30/50 15'@170'	50	1698	1595	1488	1363	1222	1074	920	760	584								USGPH
3.0	0		2100	2080	2060	2030	1955	1870	1785	1700	1620	1485	1350	1215	1080			
	20		2051	2008	1930	1845	1760	1676	1588	1480	1372	1237	1102	912	603			
Best efficiency	30		1996	1917	1832	1747	1664	1571	1463	1355	1247	1112	928	629	409			
20/40 30'@245'	40		1904	1819	1734	1652	1555	1447	1339	1231	1123	944	656	424	239			
30/50 20'@210'	50		1806	1721	1640	1539	1431	1323	1215	1107	960	682	439					USGPH

* Friction loss in pipe not included

Ordering information					
MODEL	HP	Stages	Volts	Wire	Motor lead
105119	1/2	5	115	2	48"
105120	1/2	5	115	3	48"
105121	1/2	5	230	2	48"
105123	1/2	5	230	3	48"
105140	3/4	7	230	2	48"
105138	3/4	7	230	3	48"

Ordering information					
MODEL	HP	Stages	Volts	Wire	Motor lead
105151	1.0	8	230	2	48"
105148	1.0	8	230	3	48"
105162	1.5	11	230	2	48"
105157	1.5	11	230	3	48"
105167	2.0	16	230	3	48"
105176	3.0	22	230	3	48"



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1 800 361-1820

4” SUBMERSIBLE DEEP WELL PUMPS

WARRANTY 2 YEARS

55 GPM

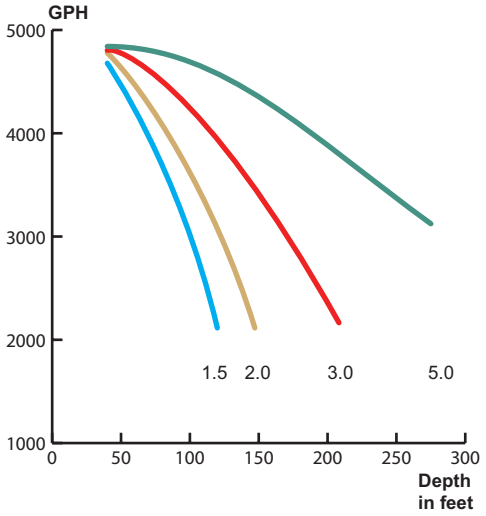
Performance Charts

HP	PSI	20'	40'	60'	80'	100'	120'	140'	160'	180'	200'	225'	250'	275'	300'	325'	350'	400'	450'	500'
1.5	0		4675	4250	3700	3000	2100													
	20	4085	3490	2730	1470															
Best efficiency	30	3385	2595	1155																
20/40 0'@70'	40	2460	840																	
30/50 0'@50'	50	525																	USGPH	
2.0	0		4780	4450	4110	3620	3040	2500	1445											
	20	4348	3963	3446	2878	2260	1190													
Best efficiency	30	3890	3359	2797	2140	935														
20/40 10'@90'	40	3272	2716	2020	680															
30/50 5'@70'	50	2635	1900	425															USGPH	
3.0	0		4800	4740	4490	4250	3950	3650	3300	2800	2300	1825								
	20	4665	4418	4160	3860	3545	3150	2650	2186	1752										
Best efficiency	30	4382	4115	3815	3493	3075	2575	2129	1533											
20/40 15'@150'	40	4070	3770	3440	3000	2500	2072	1314												
30/50 10'@130'	50	3725	3388	2925	2425	2015	1095												USGPH	
5.0	0		4820	4800	4740	4700	4550	4410	4250	4050	3840	3620	3380	3110						
	20	4782	4728	4655	4508	4362	4190	3987	3787	3610	3418	3153	2715	1892						
Best efficiency	30	4722	4633	4487	4338	4160	3956	3761	3582	3390	3175	2753	1964							
20/40 20'@260'	40	4610	4466	4314	4130	3924	3734	3553	3358	3142	2790	2035								
30/50 15'@230'	50	4445	4290	4100	3893	3708	3524	3326	3110	2734	2106								USGPH	

* Friction loss in pipe not included

Ordering information

MODEL	HP	Stages	Volts	Wire	Motor lead
105152	1.5	5	230	2	48"
105158	1.5	5	230	3	48"
105169	2.0	5	230	3	48"
105177	3.0	7	230	3	48"
105186	5.0	11	230	3	48"



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4” SUBMERSIBLE DEEP WELL PUMPS

WARRANTY 2 YEARS

85 GPM

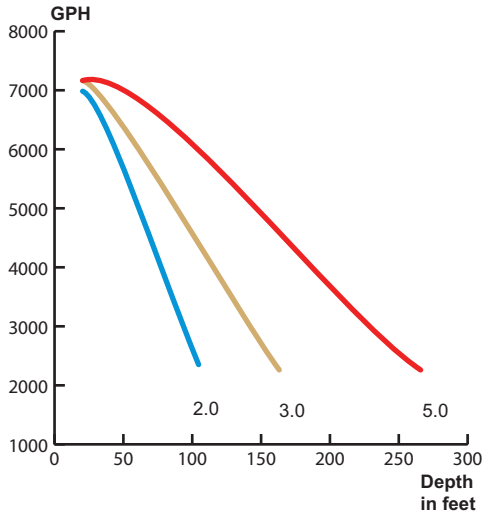
Performance Charts

HP	PSI	20'	40'	60'	80'	100'	120'	140'	160'	180'	200'	225'	250'	275'	300'	325'	350'	400'	450'	500'
2.0	**0**	**7000**	**6250**	**5050**	**3800**	2600	1300													
	20	**4675**	**3440**	2210	910															
Best efficiency	**30**	**3260**	2015	715																
20/40 0'@45'	**40**	1820	520																	
30/50 0'@25'	**50**	325																		**USGPH**
3.0	**0**	7150	**6750**	**6050**	**5400**	**4580**	**3730**	3000	2250											
	20	**5855**	**5154**	**4325**	**3511**	2775	1575													
Best efficiency	**30**	**5031**	**4198**	**3402**	2663	1238														
20/40 5'@90'	**40**	**4070**	**3292**	2550	900															
30/50 0'@70'	**50**	**3183**	2438	563																**USGPH**
5.0	**0**	7150	**7130**	**6950**	**6590**	**6160**	**5680**	**5200**	**4700**	**4200**	**3700**	3120	2630	2000						
	20	**6842**	**6461**	**6016**	**5536**	**5050**	**4550**	**4050**	**3561**	**3100**	2708	2101								
Best efficiency	**30**	**6397**	**5944**	**5464**	**4975**	**4475**	**3975**	**3491**	3042	2650	2151									
20/40 10'@190'	**40**	**5872**	**5392**	**4900**	**4400**	**3900**	**3422**	2983	2580	2076										
30/50 5'@150'	**50**	**5320**	**4825**	**4325**	**3825**	**3352**	2924	2504	2000											**USGPH**

* Friction loss in pipe not included

Ordering information

MODEL	HP	Stages	Volts	Wire	Motor lead
105170	2.0	4	230	3	48"
105178	3.0	6	230	3	48"
105187	5.0	16	230	3	48"



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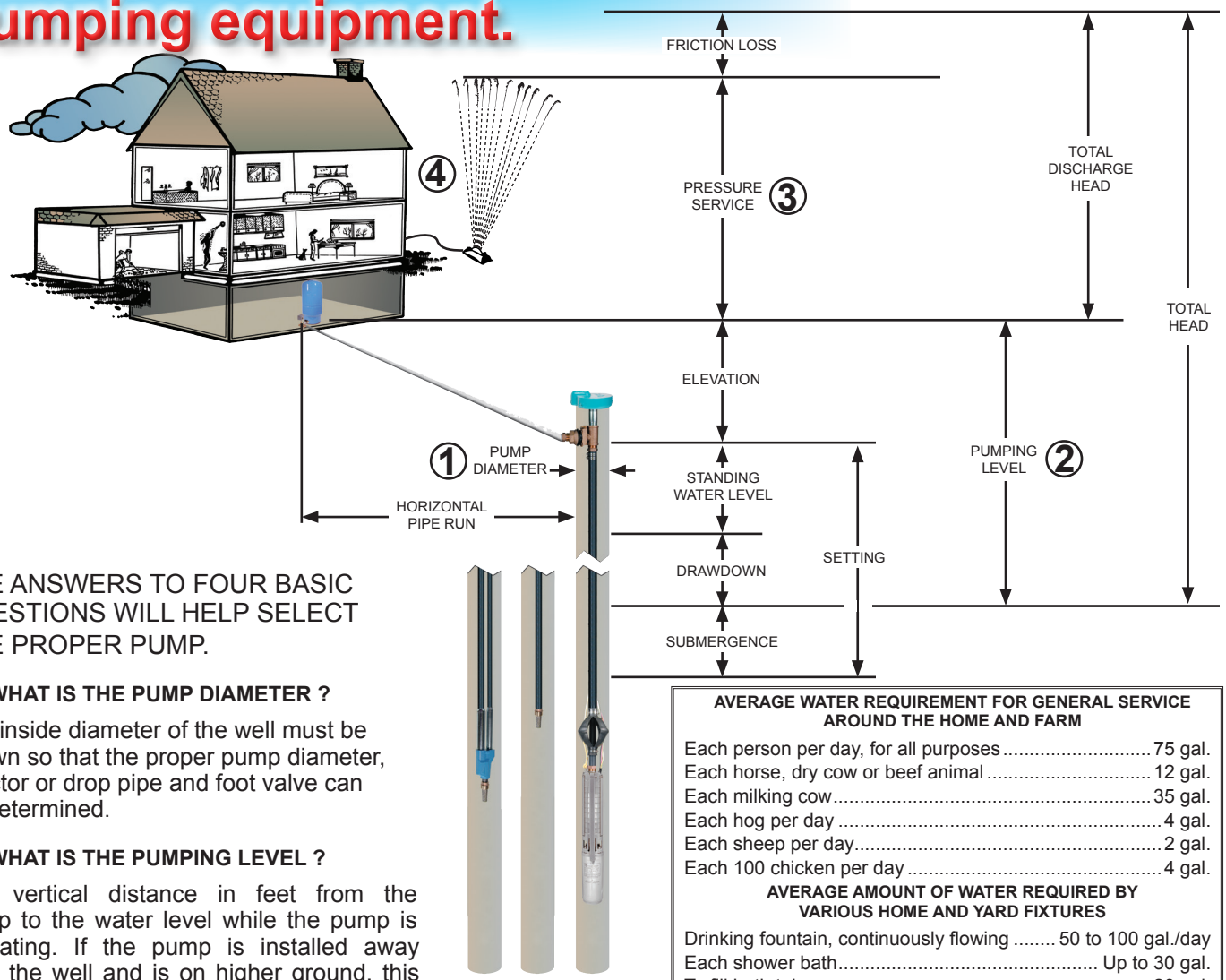
PUMP SIZING

How to select the correct pumping equipment.



THE ANSWERS TO FOUR BASIC QUESTIONS WILL HELP SELECT THE PROPER PUMP.

① WHAT IS THE PUMP DIAMETER ?

The inside diameter of the well must be known so that the proper pump diameter, injector or drop pipe and foot valve can be determined.

② WHAT IS THE PUMPING LEVEL ?

The vertical distance in feet from the pump to the water level while the pump is operating. If the pump is installed away from the well and is on higher ground, this elevation must also be included.
The drawdown while being pumped must not be confused with the standing water level.

③ WHAT SHOULD BE THE AVERAGE DISCHARGE PRESSURE ?

Usual average discharge pressure is 30 lbs., halfway between the 20 lb. to 40 lb. switch setting of most water systems.
When the tank is installed away from the pump level, or when house or yard fixtures are above the pump and tank, a greater pressure is needed and a large pump must be used.

④ WHAT CAPACITY IS REQUIRED ?

The discharge capacity of the pump in gallons per hour that is needed for satisfactory service. The pump should have enough capacity so that it can deliver the total water requirement in 2 hours of continuous operation. See table of water requirement at right.

AVERAGE WATER REQUIREMENT FOR GENERAL SERVICE AROUND THE HOME AND FARM

Each person per day, for all purposes	75 gal.
Each horse, dry cow or beef animal	12 gal.
Each milking cow	35 gal.
Each hog per day	4 gal.
Each sheep per day	2 gal.
Each 100 chicken per day	4 gal.

AVERAGE AMOUNT OF WATER REQUIRED BY VARIOUS HOME AND YARD FIXTURES

Drinking fountain, continuously flowing	50 to 100 gal./day
Each shower bath	Up to 30 gal.
To fill bath tub	20 gal.
To flush toilet	4.5 gal.
To fill sink	2 gal.
To sprinkle 1/4'' of water on each 1000 Square feet of lawn	160 gal.
Dish washing machine - per load	10 gal.
Automatic washer - per load	Up to 60 gal.
Regenaration of domestic water softener	50-100 gal.

AVERAGE FLOW RATE REQUIREMENTS BY VARIOUS FIXTURES

Shower	4 to 6 gal. per minute
Bathtub	4 to 8 gal. per minute
Toilet	4 to 5 gal. per minute
Sink	1 to 3 gal. per minute
Kitchen sink	2 to 3 gal. per minute
1/2'' hose and nozzle	200 gal. per hour
3/4'' hose and nozzle	300 gal. per hour
Lawn sprinkler	120 gal. per hour

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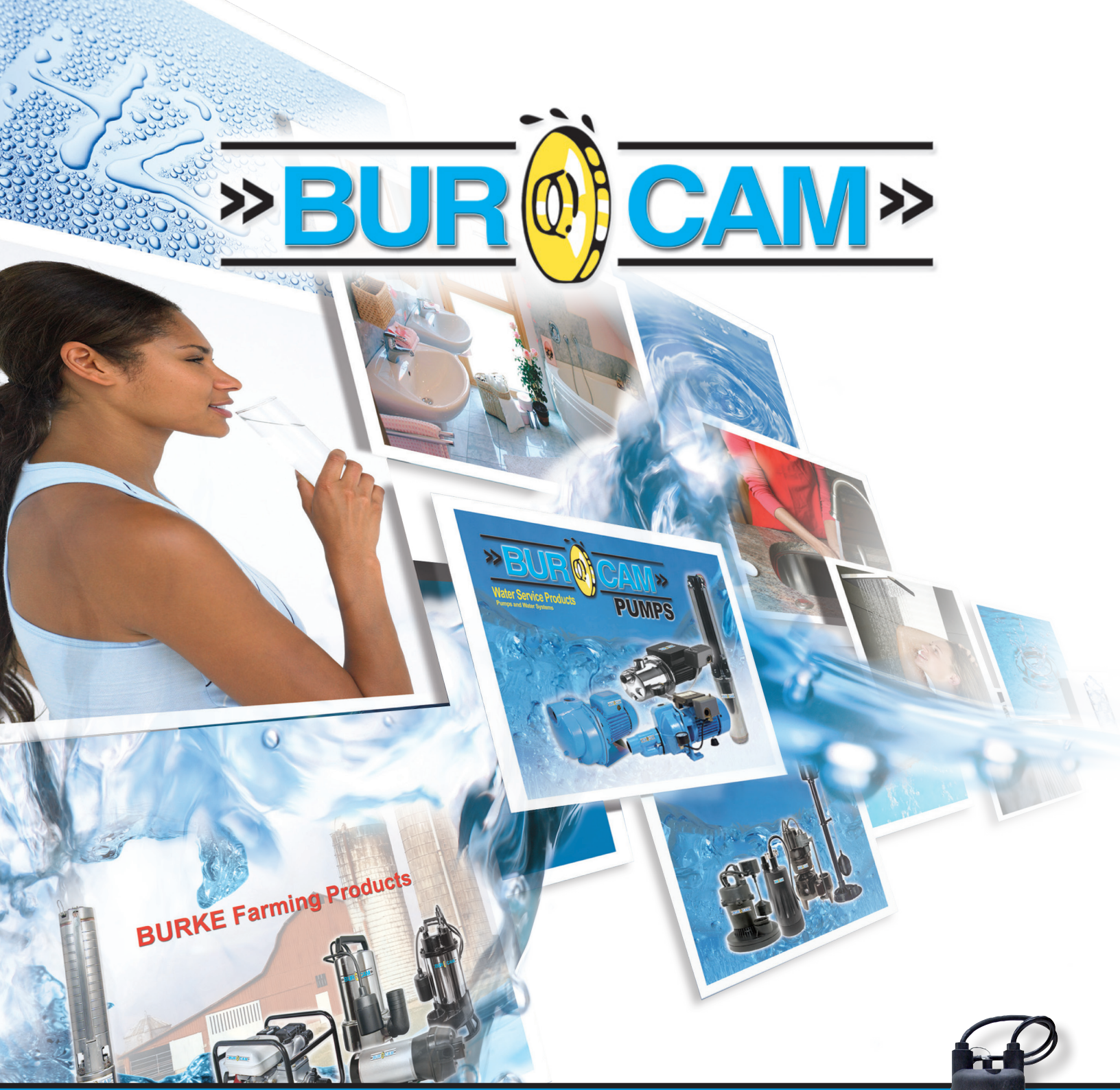

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