

## INSTRUCTIONS FOR DETERMINING THE SHAFT SIZE ACCORDING TO THE HORSEPOWER

1. FOR SHAFTS MADE OF STANDARD C1045 CARBON STEEL, SEE MAXIMUM BHP CHARTS FOR THREADED SHAFT & THREADED WITH KEYWAY SHAFT.

NOTE: KEEP IN MIND THAT THE MOTOR DRIVESHAFT WILL ALWAYS BE THREADED WITH KEYWAY.

2. FOR SPECIAL MATERIALS, SEE CHART BELOW FOR MATERIAL MULTIPLIER.

MATERIAL	SPECIFICATIONS	UTS PSI	YIELD STRENGTH PSI	MAXIMUM ALLOW AWWA PSI	MULTIPLIER
C1045	A108 TYPE S104500	100,000	80,000	15,300	1.00
316	A276 TYPE 316 COLD FINISH	90,000	45,000	13,500	0.88
410	A276 TYPE S41000	100,000	80,000	18,000	1.18
416	A572 TYPE S41600	100,000	70,000	18,000	1.18
17-4PH (H1150)	A564 TYPE 630 COND. H1150	135,000	105,000	24,300	1.59
17-4PH (H1025)	A564 TYPE 630 COND. H1025	155,000	145,000	27,900	1.82
17-4PH (H900)	A564 TYPE 630 COND. H900	190,000	170,000	34,200	2.24
18-18	A276 TYPE S28200	110,000	60,000	18,000	1.18
NITRONIC 50	A276 TYPE XM-19 CONDITION A	100,000	55,000	16,500	1.15
NITRONIC 50(HS)	A276 TYPE XM-19 HIGH STRENGTH	135,000	105,000	20,600	1.60

## ENGINEERING DATA

01/01/2019

## MAXIMUM RECOMMENDED B.H.P. (THREADED & KEYWAY SHAFT)

REVISION 1

NOMINAL DIAMETER (INCHES)	RPM (N)	THRUST (1000 POUNDS)										
		2	4	6	8	10	15	20	25	30	40	60
0.750	1	0.017	0.016	0.015	0.013							
	980	17	16	15	13							
	1180	20	19	18	15							
	1450	25	23	22	19							
	1760	30	28	26	23							
	2900	49	46	44	38							
	3500	60	56	53	46							
1.000	1	0.027	0.027	0.026	0.024							
	980	26	26	25	24							
	1180	32	32	31	28							
	1450	39	39	38	35							
	1760	48	48	46	42							
	2900	78	78	75	70							
	3500	95	95	91	84							
1.188	1	0.049	0.049	0.048	0.047							
	980	48	48	47	46							
	1180	58	58	57	55							
	1450	71	71	70	68							
	1760	86	86	84	83							
	2900	142	142	139	136							
	3500	172	172	168	165							
1.500	1	0.093	0.093	0.092	0.091	0.090	0.086					
	980	91	91	90	89	88	84					
	1180	110	110	109	107	106	101					
	1450	135	135	133	132	131	125					
	1760	164	164	162	160	158	151					
	2900	270	270	267	264	261	249					
	3500	326	326	322	319	315	301					
1.688	1	0.143	0.142	0.142	0.141	0.140	0.136					
	980	140	139	139	138	137	133					
	1180	169	168	168	166	165	160					
	1450	207	206	206	204	203	197					
	1760	252	250	250	248	246	239					
	2900	415	412	412	409	406	394					
	3500	501	497	497	494	490	476					
1.938	1	0.201	0.201	0.210	0.200	0.199	0.196					
	980	206	206	206	196	195	192					
	1180	248	248	248	236	235	231					
	1450	305	305	305	290	289	284					
	1760	370	370	370	352	350	345					
	2900	609	609	609	580	577	568					
	3500	735	735	735	700	697	686					

**ENGINEERING DATA** 01/01/2019  
**MAXIMUM RECOMMENDED B.H.P. (THREADED & KEYWAY SHAFT)** REVISION 1

NOMINAL DIAMETER (INCHES)	RPM (N)	THRUST (1000 POUNDS)										
		2	4	6	8	10	15	20	25	30	40	60
2.188	1	0.312	0.312	0.311	0.311	0.310	0.307					
	980	306	306	305	305	304	301					
	1180	368	368	367	367	366	362					
	1450	452	452	451	451	450	445					
	1760	549	549	547	547	546	540					
	2900	904	904	902	902	899	890					
	3500	1092	1092	1089	1089	1085	1075					
2.438	1	0.409	0.409	0.408	0.408	0.407	0.404	0.401	0.396			
	980	401	401	400	400	399	396	393	388			
	1180	483	483	481	481	480	477	473	467			
	1450	593	593	592	592	590	586	581	574			
	1760	720	720	718	718	716	711	706	697			
2.688	1	0.580	0.580	0.579	0.578	0.576	0.573	0.569	0.564			
	980	568	568	567	566	564	562	558	553			
	1180	684	684	683	682	680	676	671	666			
	1450	841	841	840	838	835	831	825	818			
	1760	1020	1020	1019	1017	1014	1008	1001	993			
2.938	1	0.723	0.723	0.723	0.722	0.722	0.720	0.717	0.713	0.708	0.696	
	980	709	709	709	708	708	706	703	699	694	682	
	1180	853	853	853	852	852	850	846	841	835	821	
	1450	1048	1048	1048	1047	1047	1044	1040	1034	1027	1009	
	1760	1272	1272	1272	1271	1271	1267	1262	1255	1246	1225	
3.188	1	0.970	0.970	0.969	0.969	0.968	0.966	0.964	0.960	0.956	0.945	
	980	951	951	950	950	949	947	945	941	937	926	
	1180	1145	1145	1143	1143	1142	1140	1138	1133	1128	1115	
	1450	1407	1407	1405	1405	1404	1401	1398	1392	1386	1370	
	1760	1707	1707	1705	1705	1704	1700	1697	1690	1683	1663	
3.438	1					1.167	1.165	1.163	1.160	1.156	1.146	1.116
	980					1144	1142	1140	1137	1133	1123	1094
	1180					1377	1375	1372	1369	1364	1352	1317
	1450					1692	1689	1686	1682	1676	1662	1618
	1760					2054	2050	2047	2042	2035	2017	1965

**ENGINEERING DATA**

01/01/2019

**MAXIMUM RECOMMENDED B.H.P. (THREADED & KEYWAY SHAFT)**

REVISION 1

NOMINAL DIAMETER (INCHES)	RPM (N)	THRUST (1000 POUNDS)										
		10	20	30	50	65	85	105	125	150		
3.688	1	1.685	1.681	1.673	1.647							
	440	741	740	736	725							
	505	851	849	845	832							
	585	986	983	979	963							
	705	1188	1185	1179	1161							
	880	1483	1479	1472	1449							
	980	1651	1647	1639	1614							
	1180	1988	1984	1974	1943							
3.938	1	1.767	1.763	1.757	1.748	1.723						
	440	777	776	773	769	758						
	505	892	890	887	883	870						
	585	1034	1031	1028	1023	1008						
	705	1246	1243	1239	1232	1214						
	880	1555	1551	1546	1538	1516						
	980	1732	1728	1722	1713	1689						
	1180	2085	2080	2073	2062	2033						
4.500	1		2.457	2.451	2.433	2.412	2.377					
	440		1089	1078	1071	1061	1046					
	505		1250	1238	1229	1218	1200					
	585		1448	1434	1423	1411	1391					
	705		1745	1728	1715	1700	1676					
	880		2178	2157	2141	2123	2092					
	980		2426	2402	2384	2364	2329					
	1180		2921	2892	2870	2846	2805					
5.000	1			3.362	3.345	3.327	3.295	3.255				
	440			1479	1472	1464	1450	1432				
	505			1698	1689	1680	1664	1644				
	585			1967	1957	1946	1928	1904				
	705			2370	2358	2346	2323	2295				
	880			2959	2944	2928	2900	2864				
	980			3295	3278	3260	3229	3190				
	1180			3967	3947	3926	3888	3841				

## ENGINEERING DATA

01/01/2019

### MAXIMUM RECOMMENDED B.H.P. (THREADED SHAFT)

REVISION 1

NOMINAL DIAMETER (INCHES)	RPM (N)	THRUST (1000 POUNDS)										
		2	4	6	8	10	15	20	25	30	40	60
0.750	1	0.026	0.026	0.025	0.023							
	980	25	25	25	23							
	1180	31	31	30	27							
	1450	38	38	36	33							
	1760	46	46	44	40							
	2900	75	75	73	67							
	3500	91	91	88	81							
1.000	1	0.041	0.040	0.039	0.038							
	980	40	39	38	37							
	1180	48	47	46	45							
	1450	59	58	57	55							
	1760	72	70	69	67							
	2900	119	116	113	110							
	3500	144	140	137	133							
1.188	1	0.065	0.065	0.064	0.063							
	980	64	64	63	62							
	1180	77	77	76	74							
	1450	94	94	93	91							
	1760	114	114	113	111							
	2900	189	189	186	183							
	3500	228	228	224	221							
1.500	1	0.138	0.137	0.137	0.136	0.135	0.131					
	980	135	134	134	133	132	128					
	1180	163	162	162	160	159	155					
	1450	200	199	199	197	196	190					
	1760	243	241	241	239	238	231					
	2900	400	397	397	394	392	380					
	3500	483	480	480	476	473	459					
1.688	1	0.200	0.199	0.199	0.198	0.197	0.194					
	980	196	195	195	194	193	190					
	1180	236	235	235	234	232	229					
	1450	290	289	289	287	286	281					
	1760	352	350	350	348	347	341					
	2900	580	577	577	574	571	563					
	3500	700	697	697	693	690	679					
1.938	1	0.308	0.307	0.307	0.306	0.305	0.303					
	980	302	301	301	300	299	297					
	1180	363	362	362	361	360	358					
	1450	447	445	445	444	442	439					
	1760	542	540	540	539	537	533					
	2900	893	890	890	887	885	878					
	3500	1078	1075	1075	1071	1068	1061					

ENGINEERING DATA											01/01/2019	
MAXIMUM RECOMMENDED B.H.P. (THREADED SHAFT)											REVISION 1	
NOMINAL DIAMETER (INCHES)	RPM (N)	THRUST (1000 POUNDS)										
		2	4	6	8	10	15	20	25	30	40	60
2.188	1	0.449	0.449	0.448	0.448	0.447	0.445					
	980	440	440	439	439	438	436					
	1180	530	530	529	529	527	525					
	1450	651	651	650	650	649	645					
	1760	790	790	788	788	787	783					
	2900	1302	1302	1299	1299	1296	1291					
	3500	1572	1572	1568	1568	1565	1558					
2.438	1	0.628	0.628	0.627	0.627	0.626	0.624	0.621	0.617			
	980	615	615	614	614	613	612	609	605			
	1180	741	741	740	740	739	736	733	728			
	1450	911	911	909	909	908	905	900	895			
	1760	1105	1105	1104	1104	1102	1098	1093	1086			
2.688	1	0.849	0.849	0.849	0.848	0.848	0.846	0.843	0.839	0.835		
	980	832	832	832	831	831	829	826	822	818		
	1180	1002	1002	1002	1001	1001	998	995	990	985		
	1450	1231	1231	1231	1230	1230	1227	1222	1217	1212		
	1760	1494	1494	1494	1492	1492	1489	1484	1477	1470		
2.938	1	1.117	1.117	1.117	1.116	1.116	1.114	1.112	1.108	1.104	1.094	
	980	1095	1095	1095	1094	1094	1092	1090	1086	1082	1072	
	1180	1318	1318	1318	1317	1317	1314	1312	1307	1303	1291	
	1450	1620	1620	1620	1618	1618	1615	1612	1607	1601	1586	
	1760	1966	1966	1966	1964	1964	1961	1957	1950	1943	1925	
3.188	1	1.436	1.436	1.436	1.436	1.435	1.434	1.431	1.428	1.425	1.415	
	980	1407	1407	1407	1407	1406	1405	1402	1399	1397	1387	
	1180	1694	1694	1694	1694	1693	1692	1689	1685	1682	1670	
	1450	2082	2082	2082	2082	2081	2079	2075	2071	2066	2051	
	1760	2527	2527	2527	2527	2526	2523	2519	2513	2508	2490	
3.438	1					1.810	1.808	1.806	1.804	1.800	1.792	1.767
	980					1774	1772	1770	1768	1764	1756	1732
	1180					2136	2133	2131	2129	2124	2115	2085
	1450					2625	2622	2619	2616	2610	2598	2562
	1760					3186	3182	3179	3175	3168	3154	3110

**ENGINEERING DATA**
**01/01/2019**
**MAXIMUM RECOMMENDED B.H.P. (THREADED SHAFT)**
**REVISION 1**

NOMINAL DIAMETER (INCHES)	RPM (N)	THRUST (1000 POUNDS)										
		2	4	6	8	10	15	20	25	30	40	60
3.688	1					2.245	2.244	2.242	2.239	2.236	2.228	2.205
	440					988	987	986	985	984	980	970
	505					1134	1133	1132	1131	1129	1125	1114
	585					1313	1313	1312	1310	1308	1303	1290
	705					1583	1582	1581	1579	1576	1571	1555
	880					1976	1975	1973	1970	1968	1961	1940
	980					2200	2199	2197	2194	2191	2183	2161
	1180					2649	2648	2646	2642	2638	2629	2602
3.938	1					2.744	2.743	2.741	2.739	2.736	2.728	2.707
	440					1207	1207	1206	1205	1204	1200	1191
	505					1386	1385	1384	1383	1382	1378	1367
	585					1605	1605	1603	1602	1601	1596	1584
	705					1935	1934	1932	1931	1929	1923	1908
	880					2415	2414	2412	2410	2408	2401	2382
	980					2689	2688	2686	2687	2681	2673	2653
	1180					3238	3237	3234	3232	3228	3219	3194

<b>SHAFT SIZE</b>	<b>WEIGHT PER FOOT (LBS)</b>
0.750	1.50
0.875	2.09
1.000	2.67
1.188	3.77
1.500	6.01
1.688	7.60
1.938	10.02
2.188	12.78
2.438	15.87
2.688	19.29
2.938	23.06
3.000	24.03
3.250	28.21
3.500	32.71
3.750	37.55
4.000	42.73
4.500	54.07
4.750	60.25
5.000	66.76