



USE OF MF AND PL PERCENTAGE CURVES

MF and PL performance curves show the maximum recommended range only of pump operation.

When customers require curves drawn to shut-off, or an estimate of pump performance that is not within the recommended operating range, the percentage curves are useful in determining the approximate performance for these pump types in the ranges not normally shown.

To use the percentage curves, follow these three steps:

- (1) From the performance curve of the pump selected, obtain the head and capacity at the peak efficiency point and note the efficiency. This point is called Q-normal or  $Q_n$ . It is 100% head, 100% capacity and 100% efficiency on the percentage curves.
- (2) To obtain the head and/or efficiency at any point other than Q-normal that is not shown on the performance curve, divide the capacity at the point where this information is desired by the capacity at Q-normal. The result is a percentage which is greater or less than 100%.
- (3) Enter the percentage curve with the answer obtained in step two. Read up and obtain the percentage of Head, the percentage of Efficiency and/or the percentage of BHP horsepower to be expected. Apply these percentages to the values obtained from the performance curve in step one.

EXAMPLE:

Determine the anticipated lab head and lab efficiency at 2,270 gpm and the shut-off head and hp for an 18MF Hydro-Foil which is designed to operate at 7,200 gpm at 25 ft (bowl performance). For this application the following is obtained from the pump performance curve no. 2845328 at 1175 rpm:

Step I:  $Q_n = 6750 \text{ gpm}$  (the capacity at peak efficiency)

$H_n = 28'$  (the head at peak efficiency)

$E_n = 85.6\%$  (peak efficiency)

$BHP_n = 55.8 \text{ bhp}$  (the bhp at peak efficiency)

Step II:  $\frac{2270 \text{ gpm}}{6750 \text{ gpm } (Q_n)} = 33.7\%$   $\frac{0 \text{ gpm}}{6750 \text{ gpm } (Q_n)} = 0\%$

Step III: From the percentage curve for MF pumps the following is obtained:

A.

Q	0%	33.7%
H	$248\% H_n$	$162\% H_n$
E	—————	$46\% E_n$
BHP	$170\% BHP_n$	—————

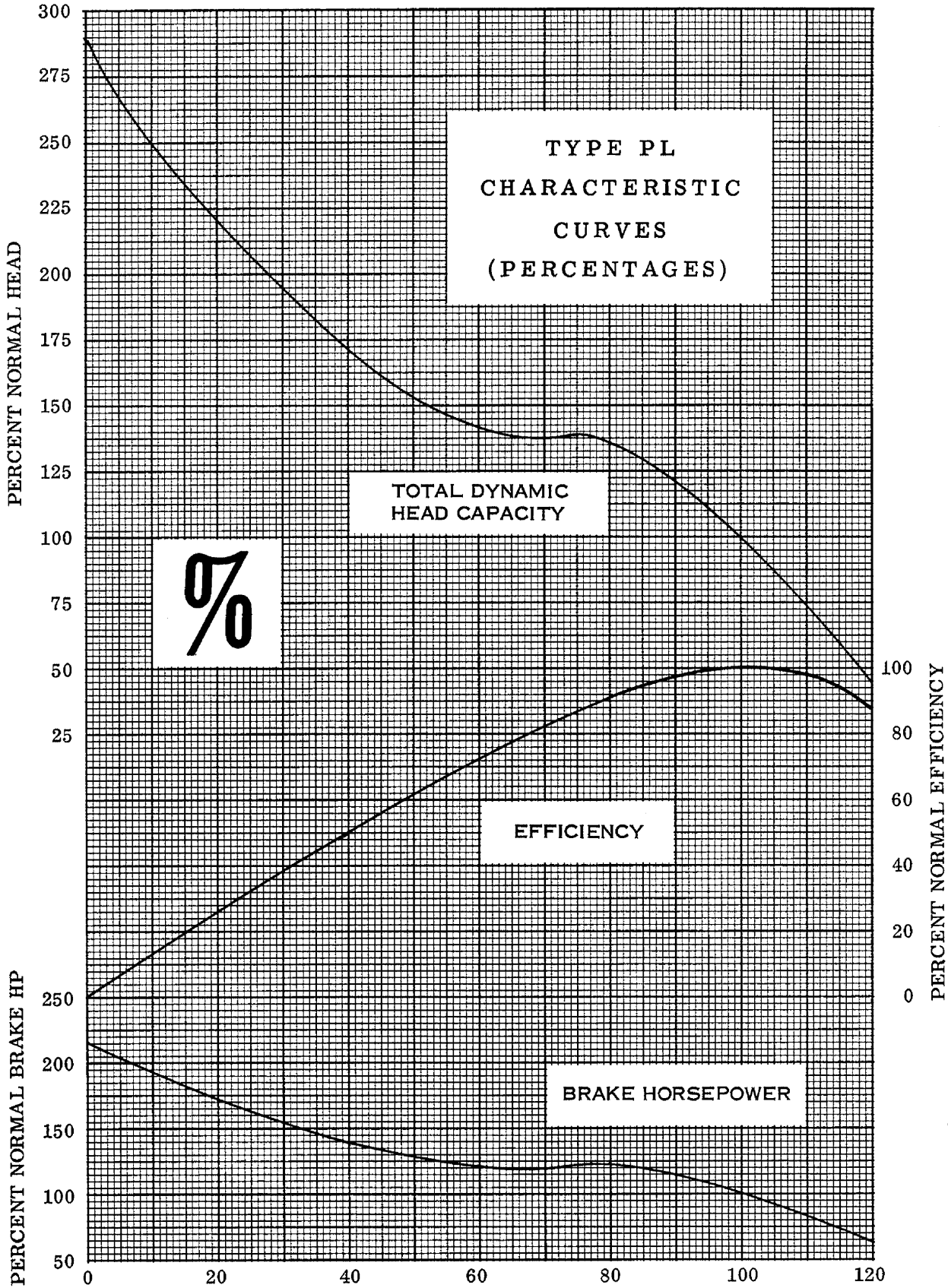
B.  $248\% \times 28' = 69.4'$  head at shut-off

$170\% \times 55.8 = 95.1 \text{ BHP}$  at shut-off

$162\% \times 28' = 45.4'$  head at 2,270 gpm

$46\% \times 85.6\% = 39.4\% E$  at 2,270 gpm

It is important to remember that the above calculations will vary due to increased or decreased motor speeds at various horsepower requirements. They will also vary due to the fact that the friction losses in the column are zero at shut-off and that they increase as the capacity increases. Finally, performance figures obtained by use of percentage curves will vary from actual performance, since percentage curves are based on average performance figures and should be treated as such.



Curve No. 2846402



Pump Model	Pump Speed RPM	Minimum Flow US GPM	Mean Flow US GPM	Maximum Flow US GPM	Maximum Head Feet Per Stage	Impeller No	Best Efficiency Point %	Min Stages	Max Stages
8MFH	1760	600	951	1301	26.2	2606032	78.6	1	30
10MF/LM	1760	1194	1440	1686	22.2	V2782	81.5	1	2
10MF/MM	1760	1372	1655	1938	22.9	V2584	82.0	1	2
10MFH	1760	1301	1726	2151	29.4	2602101	86.5	1	30
12MF/LM	1760	1857	2248	2638	29.4	V2610	82.5	1	2
12MF/MM	1760	2145	2593	3041	30.7	V2603	82.8	1	2
14MFAL	1760	2774	4183	5592	59.3	2629791	87.4	1	1
14MFAH	1760	4020	5573	7125	67	2628310	87.1	1	1
8MFH	1180	402	637	872	11.8	2606032	78.6	1	30
10MF/LM	1180	801	966	1130	10	V2782	81.5	1	2
10MF/MM	1180	920	1110	1299	10.3	V2584	82.0	1	2
10MFH	1180	872	1157	1442	13.2	2602101	86.5	1	30
12MF/LM	1180	1245	1507	1769	13.2	V2610	82.5	1	2
12MF/MM	1180	1438	1739	2039	13.8	V2603	82.8	1	2
14MFAL	1180	1839	2773	3707	26	2629791	87.4	1	1
14MF/LM	1180	2629	3228	3826	22.7	V2840	83.8	1	2
14MF/MM	1180	3000	3680	4360	23.8	V2841	84.0	1	2
14MFAH	1180	2665	3694	4723	29.4	2628310	87.1	1	1
16MF/LM	1180	3855	4660	5464	28.3	V1859	84.5	1	2
16MF/MM	1180	4322	5302	6282	29.9	V1858	85.3	1	2



Preliminary Selection Table  
MF Hydrofoil Pumps  
60 Hertz Speeds

Pump Model	Pump Speed RPM	Minimum Flow US GPM	Mean Flow US GPM	Maximum Flow US GPM	Maximum Head Feet Per Stage	Impeller No	Best Efficiency Point %	Min Stages	Max Stages
18MFAL	1180	3642	5623	7603	43.5	4601869	88.0	1	1
18MF/LM	1180	5173	6270	7366	34.6	V2144	85.2	1	2
18MF/MM	1180	5931	7204	8477	36.4	V2473	85.6	1	2
20MFAL	1180	6003	9906	13809	59.9	2628686	88.9	1	1
20MFAH	1180	9197	13225	17252	64	2626250	88.2	1	1
10MF/LM	885	600	724	848	5.6	V2782	81.5	1	2
10MF/MM	885	690	832	974	5.8	V2584	82.0	1	2
12MF/LM	885	934	1130	1326	7.4	V2610	82.5	1	2
12MF/MM	885	1079	1304	1529	7.8	V2603	82.8	1	2
14MFAL	885	1379	2080	2780	14.6	2629791	87.4	1	1
14MF/LM	885	1972	2421	2869	12.8	V2840	83.8	1	2
14MF/MM	885	2250	2760	3270	13.4	V2841	84.0	1	2
14MFAH	885	1999	2771	3542	16.6	2628310	87.1	1	1
16MF/LM	885	2891	3495	4098	15.9	V1859	84.5	1	2
16MF/MM	885	3241	3977	4712	16.8	V1858	85.3	1	2
18MFAL	885	2731	4217	5702	24.4	4601869	88.0	1	1
18MF/LM	885	3880	4703	5525	19.5	V2144	85.2	1	2
18MF/MM	885	4448	5403	6358	20.5	V2473	85.6	1	2
20MFAL	885	4502	7430	10357	33.7	2628686	88.9	1	1
20MF/LM	885	6934	8472	10009	28.3	V2539	86.5	1	2



Pump Model	Pump Speed RPM	Minimum Flow US GPM	Mean Flow US GPM	Maximum Flow US GPM	Maximum Head Feet Per Stage	Impeller No	Best Efficiency Point %	Min Stages	Max Stages
20MF/MM	885	8006	9680	11353	29.6	V2325	87.0	1	2
20MFAH	885	6898	9919	12939	36	2626250	88.2	1	1
24MF/LM	885	9245	11305	13364	34.9	V2556	87.0	1	2
24MFH	885	8972	12439	15906	43.8	2619068	87.5	1	2
24MF/MM	885	10583	12959	15335	36.8	V2450	87.8	1	2
30MFAL	885	13291	18564	23837	54.2	2629752	92.0	1	1
30MFAH	885	14604	21414	28224	64.4	2629647	88.6	1	1
18MFAL	705	2176	3360	4543	15.5	4601869	88.0	1	1
18MF/LM	705	3091	3746	4401	12.4	V2144	85.2	1	2
18MF/MM	705	3544	4305	5065	13	V2473	85.6	1	2
20MFAL	705	3587	5919	8250	21.4	2628686	88.9	1	1
20MF/LM	705	5523	6749	7974	18	V2539	86.5	1	2
20MF/MM	705	6377	7711	9044	18.8	V2325	87.0	1	2
20MFAH	705	5495	7901	10307	22.9	2626250	88.2	1	1
24MF/LM	705	7364	9005	10646	22.1	V2556	87.0	1	2
24MFH	705	7147	9909	12671	27.8	2619068	87.5	1	2
24MF/MM	705	8430	10323	12216	23.3	V2450	87.8	1	2
30MFAL	705	10588	14789	18989	34.4	2629752	92.0	1	1
30MF/LM	705	12205	15102	17998	32.2	2605031	88.4	1	2
30MFAH	705	11634	17059	22484	40.8	2629647	88.6	1	1



Peerless Pump Company  
Indianapolis, IN 46207-7026

Preliminary Selection Table  
MF Hydrofoil Pumps  
60 Hertz Speeds

SECTION 340  
October, 2001

Pump Model	Pump Speed RPM	Minimum Flow US GPM	Mean Flow US GPM	Maximum Flow US GPM	Maximum Head Feet Per Stage	Impeller No	Best Efficiency Point %	Min Stages	Max Stages
30MFH	705	12172	17072	21972	42.8	2609256	84.0	1	2
30MF/MM	705	13925	17379	20833	33.7	2605402	89.2	1	2
36MF/LM	705	19790	24899	30008	48.3	V2486	88.4	1	2
36MFH	705	20793	27697	34601	54.6	2613846	86.2	1	2
36MF/MM	705	24138	30380	36622	46.5	V1943	90.0	1	2
42MFAL	705	26868	38067	49266	64.3	2629676	87.5	1	1
42MFAH	705	31062	44109	57155	77.6	2629533	86.6	1	1
24MF/LM	585	6111	7473	8834	15.2	V2556	87.0	1	2
24MFH	585	5930	8222	10514	19.1	2619068	87.5	1	2
24MF/MM	585	6995	8566	10137	16.1	V2450	87.8	1	2
30MFAL	585	8786	12272	15757	23.7	2629752	92.0	1	1
30MF/LM	585	10127	12531	14934	22.2	2605031	88.4	1	2
30MFAH	585	9653	14155	18657	28.1	2629647	88.6	1	1
30MFH	585	10101	14167	18232	29.5	2609256	84.0	1	2
30MF/MM	585	11555	14421	17287	23.2	2605402	89.2	1	2
36MF/LM	585	16422	20661	24900	33.3	V2486	88.4	1	2
36MFH	585	17254	22983	28712	37.6	2613846	86.2	1	2
36MF/MM	585	20029	25209	30389	32	V1943	90.0	1	2
42MFAL	585	22294	31587	40880	44.3	2629676	87.5	1	1
42MF/LM	585	26501	33291	40080	44.8	V2772	88.4	1	2



Pump Model	Pump Speed RPM	Minimum Flow US GPM	Mean Flow US GPM	Maximum Flow US GPM	Maximum Head Feet Per Stage	Impeller No	Best Efficiency Point %	Min Stages	Max Stages
42MFAH	585	25775	36601	47427	53.5	2629533	86.6	1	1
42MFH	585	28701	37902	47103	52.4	2613971	84.6	1	2
42MF/MM	585	31210	40215	49219	44.9	V2774	90.6	1	2
30MFAL	505	7584	10593	13602	17.7	2629752	92.0	1	1
30MF/LM	505	8743	10818	12892	16.5	2605031	88.4	1	2
30MFAH	505	8333	12219	16105	21	2629647	88.6	1	1
30MFH	505	8719	12229	15738	22	2609256	84.0	1	2
30MF/MM	505	9974	12449	14923	17.3	2605402	89.2	1	2
36MF/LM	505	14176	17836	21495	24.8	V2486	88.4	1	2
36MFH	505	14894	19840	24785	28	2613846	86.2	1	2
36MF/MM	505	17290	21762	26233	23.9	V1943	90.0	1	2
42MFAL	505	19246	27268	35289	33	2629676	87.5	1	1
42MF/LM	505	22877	28738	34599	33.4	V2772	88.4	1	2
42MFAH	505	22250	31596	40941	39.8	2629533	86.6	1	1
42MFH	505	24776	32719	40662	39.1	2613971	84.6	1	2
42MF/MM	505	26942	34715	42488	33.5	V2774	90.6	1	2
48MF/LM	505	36588	45959	55329	46.1	V2653	88.4	1	2
48MF/MM	505	42927	55674	68420	46.1	V2654	90.6	1	2
30MFH	440	7597	10655	13713	16.7	2609256	84.0	1	2
36MF/LM	440	12351	15540	18728	18.8	V2486	88.4	1	2

Pump Model	Pump Speed RPM	Minimum Flow US GPM	Mean Flow US GPM	Maximum Flow US GPM	Maximum Head Feet Per Stage	Impeller No	Best Efficiency Point %	Min Stages	Max Stages
36MFH	440	12977	17286	21595	21.3	2613846	86.2	1	2
36MF/MM	440	15065	18961	22856	18.1	V1943	90.0	1	2
42MFAL	440	16768	23758	30747	25.1	2629676	87.5	1	1
42MF/LM	440	19932	25039	30146	25.3	V2772	88.4	1	2
42MFAH	440	19386	27529	35671	30.2	2629533	86.6	1	1
42MFH	440	21587	28508	35428	29.7	2613971	84.6	1	2
42MF/MM	440	23474	30247	37019	25.4	V2774	90.6	1	2
48MF/LM	440	31878	40043	48207	35	V2653	88.4	1	2
48MF/MM	440	37401	48507	59613	35	V2654	90.6	1	2
54MF/LM	440	42666	54151	65635	43.8	V3469	88.4	1	2
54MF/MM	440	52243	67972	83701	43.7	V3468	90.2	1	2
54MF/LM	390	37817	47997	58177	34.5	V3469	88.4	1	2
54MF/MM	390	46306	60248	74189	34.3	V3468	90.2	1	2
54MF/LM	355	34424	43690	52956	28.5	V3469	88.4	1	2
54MF/MM	355	42150	54841	67531	28.4	V3468	90.2	1	2
66MF/LM	355	68095	84458	100820	43.8	V3749	88.4	1	1
66MF/MM	355	77238	100523	123807	43.4	V3748	90.2	1	2
72MF	355	89289	127521	165752	53	2604528	90.0	1	1
66MF/LM	322	61765	76607	91448	36.1	V3749	88.4	1	1
66MF/MM	322	70058	91178	112298	35.7	V3748	90.2	1	2





**Peerless Pump Company**  
Indianapolis, IN 46207-7026

Preliminary Selection Table  
MF Hydrofoil Pumps  
60 Hertz Speeds

SECTION 340  
October, 2001

<b>Pump Model</b>	<b>Pump Speed RPM</b>	<b>Minimum Flow US GPM</b>	<b>Mean Flow US GPM</b>	<b>Maximum Flow US GPM</b>	<b>Maximum Head Feet Per Stage</b>	<b>Impeller No</b>	<b>Best Efficiency Point %</b>	<b>Min Stages</b>	<b>Max Stages</b>
72MF	322	80989	115667	150345	43.6	2604528	90.0	1	1
72MF	294	73947	105609	137271	36.3	2604528	90.0	1	1



Peerless Pump Company  
Indianapolis, IN 46207-7026

Preliminary Selection Table  
MF Hydrofoil Pumps  
50 Hertz Speeds

SECTION 340  
October, 2001

Pump Model	Pump Speed RPM	Minimum Flow US GPM	Mean Flow US GPM	Maximum Flow US GPM	Maximum Head Feet Per Stage	Impeller No	Best Efficiency Point %	Min Stages	Max Stages
8MFH	1480	505	800	1094	18.5	2606032	78.6	1	30
10MF/LM	1480	1004	1211	1418	15.7	V2782	81.5	1	2
10MF/MM	1480	1154	1392	1629	16.2	V2584	82.0	1	2
10MFH	1480	1094	1452	1809	20.8	2602101	86.5	1	30
12MF/LM	1480	1561	1890	2218	20.8	V2610	82.5	1	2
12MF/MM	1480	1804	2181	2557	21.7	V2603	82.8	1	2
14MFAL	1480	2315	3490	4665	41.2	2629791	87.4	1	1
14MF/LM	1480	3298	4048	4798	35.7	V2840	83.8	1	2
14MF/MM	1480	3763	4616	5469	37.4	V2841	84.0	1	2
14MF AH	1480	3354	4649	5944	46.6	2628310	87.1	1	1
16MF/LM	1480	4851	5864	6876	44.8	V1859	84.5	1	2
16MF/MM	1480	5439	6673	7906	47.3	V1858	85.3	1	2
8MFH	985	336	532	728	8.2	2606032	78.6	1	30
10MF/LM	985	668	806	944	6.9	V2782	81.5	1	2
10MF/MM	985	768	926	1084	7.2	V2584	82.0	1	2
10MFH	985	728	966	1204	9.2	2602101	86.5	1	30
12MF/LM	985	1039	1258	1476	9.2	V2610	82.5	1	2
12MF/MM	985	1201	1452	1702	9.6	V2603	82.8	1	2
14MFAL	985	1535	2315	3094	18.1	2629791	87.4	1	1
14MF/LM	985	2195	2694	3193	15.8	V2840	83.8	1	2



**Peerless Pump Company**  
Indianapolis, IN 46207-7026

Preliminary Selection Table  
MF Hydrofoil Pumps  
50 Hertz Speeds

SECTION 340  
October, 2001

Pump Model	Pump Speed RPM	Minimum Flow US GPM	Mean Flow US GPM	Maximum Flow US GPM	Maximum Head Feet Per Stage	Impeller No	Best Efficiency Point %	Min Stages	Max Stages
14MF/MM	985	2504	3072	3640	16.6	V2841	84.0	1	2
14MFAH	985	2225	3084	3943	20.5	2628310	87.1	1	1
16MF/LM	985	3218	3890	4561	19.7	V1859	84.5	1	2
16MF/MM	985	3608	4426	5244	20.8	V1858	85.3	1	2
18MF/AL	985	3040	4694	6347	30.3	4601869	88.0	1	1
18MF/LM	985	4318	5234	6149	24.1	V2144	85.2	1	2
18MF/MM	985	4951	6014	7076	25.4	V2473	85.6	1	2
20MF/AL	985	5011	8269	11527	41.8	2628686	88.9	1	1
20MF/LM	985	7717	9429	11140	35.1	V2539	86.5	1	2
20MF/MM	985	8910	10773	12636	36.6	V2325	87.0	1	2
20MFAH	985	7677	11039	14401	44.6	2626250	88.2	1	1
24MF/LM	985	10289	12582	14874	43.2	V2556	87.0	1	2
24MFH	985	9985	13844	17703	54.3	2619068	87.5	1	2
24MF/MM	985	11778	14423	17067	45.5	V2450	87.8	1	2
14MF/AL	735	1146	1728	2309	10.1	2629791	87.4	1	1
14MF/LM	735	1638	2011	2383	8.8	V2840	83.8	1	2
14MF/MM	735	1869	2293	2716	9.2	V2841	84.0	1	2
14MFAH	735	1660	2301	2942	11.4	2628310	87.1	1	1
16MF/LM	735	2401	2902	3403	11	V1859	84.5	1	2
16MF/MM	735	2692	3303	3913	11.6	V1858	85.3	1	2



Peerless Pump Company  
Indianapolis, IN 46207-7026

Preliminary Selection Table  
MF Hydrofoil Pumps  
50 Hertz Speeds

SECTION 340  
October, 2001

Pump Model	Pump Speed RPM	Minimum Flow US GPM	Mean Flow US GPM	Maximum Flow US GPM	Maximum Head Feet Per Stage	Impeller No	Best Efficiency Point %	Min Stages	Max Stages
18MFAL	735	2268	3502	4736	16.9	4601869	88.0	1	1
18MF/LM	735	3222	3905	4588	13.4	V2144	85.2	1	2
18MF/MM	735	3694	4487	5280	14.1	V2473	85.6	1	2
20MFAL	735	3739	6170	8601	23.2	2628686	88.9	1	1
20MF/LM	735	5758	7036	8313	19.5	V2539	86.5	1	2
20MF/MM	735	6649	8039	9429	20.4	V2325	87.0	1	2
20MFAH	735	5728	8237	10746	24.8	2626250	88.2	1	1
24MF/LM	735	7678	9389	11099	24	V2556	87.0	1	2
24MFH	735	7451	10331	13210	30.2	2619068	87.5	1	2
24MF/MM	735	8789	10763	12736	25.4	V2450	87.8	1	2
30MFAL	735	11039	15418	19797	37.4	2629752	92.0	1	1
30MF/LM	735	12724	15744	18763	35	2605031	88.4	1	2
30MFAH	735	12129	17785	23441	44.4	2629647	88.6	1	1
30MF/MM	735	14517	18118	21719	36.6	2605402	89.2	1	2
24MF/LM	585	6111	7473	8834	15.2	V2556	87.0	1	2
24MFH	585	5930	8222	10514	19.1	2619068	87.5	1	2
24MF/MM	585	6995	8566	10137	16.1	V2450	87.8	1	2
30MFAL	585	8786	12272	15757	23.7	2629752	92.0	1	1
30MF/LM	585	10127	12531	14934	22.2	2605031	88.4	1	2
30MFAH	585	9653	14155	18657	28.1	2629647	88.6	1	1

Pump Model	Pump Speed RPM	Minimum Flow US GPM	Mean Flow US GPM	Maximum Flow US GPM	Maximum Head Feet Per Stage	Impeller No	Best Efficiency Point %	Min Stages	Max Stages
30MFH	585	10101	14167	18232	29.5	2609256	84.0	1	2
30MF/MM	585	11555	14421	17287	23.2	2605402	89.2	1	2
36MF/LM	585	16422	20661	24900	33.3	V2486	88.4	1	2
36MFH	585	17254	22983	28712	37.6	2613846	86.2	1	2
36MF/MM	585	20029	25209	30389	32	V1943	90.0	1	2
42MFAL	585	22294	31587	40880	44.3	2629676	87.5	1	1
42MF/LM	585	26501	33291	40080	44.8	V2772	88.4	1	2
42MF/AH	585	25775	36601	47427	53.5	2629533	86.6	1	1
42MFH	585	28701	37902	47103	52.4	2613971	84.6	1	2
42MF/MM	585	31210	40215	49219	44.9	V2774	90.6	1	2
30MFAL	490	7359	10279	13198	16.6	2629752	92.0	1	1
30MF/LM	490	8483	10496	12509	15.5	2605031	88.4	1	2
30MF/AH	490	8086	11857	15627	19.7	2629647	88.6	1	1
30MFH	490	8460	11866	15271	20.7	2609256	84.0	1	2
30MF/MM	490	9678	12079	14480	16.3	2605402	89.2	1	2
36MF/LM	490	13755	17306	20856	23.3	V2486	88.4	1	2
36MFH	490	14452	19251	24049	26.4	2613846	86.2	1	2
36MF/MM	490	16777	21116	25454	22.5	V1943	90.0	1	2
42MFAL	490	18674	26458	34241	31.1	2629676	87.5	1	1
42MF/LM	490	22197	27884	33571	31.4	V2772	88.4	1	2

Pump Model	Pump Speed RPM	Minimum Flow US GPM	Mean Flow US GPM	Maximum Flow US GPM	Maximum Head Feet Per Stage	Impeller No	Best Efficiency Point %	Min Stages	Max Stages
42MFAH	490	21589	30657	39725	37.5	2629533	86.6	1	1
42MFH	490	24040	31747	39454	36.8	2613971	84.6	1	2
42MF/MM	490	26141	33684	41226	31.5	V2774	90.6	1	2
48MF/LM	490	35501	44594	53686	43.4	V2653	88.4	1	2
48MF/MM	490	41652	54020	66388	43.4	V2654	90.6	1	2
42MFH	420	20606	27212	33818	27	2613971	84.6	1	2
48MF/LM	420	30429	38223	46016	31.9	V2653	88.4	1	2
48MF/MM	420	35701	46303	56904	31.9	V2654	90.6	1	2
54MF/LM	420	40726	51689	62652	40	V3469	88.4	1	2
54MF/MM	420	49868	64882	79896	39.8	V3468	90.2	1	2
54MF/LM	368	35684	45290	54895	30.7	V3469	88.4	1	2
54MF/MM	368	43694	56849	70004	30.6	V3468	90.2	1	2
66MF/LM	368	70588	87550	104512	47.1	V3749	88.4	1	1
66MF/MM	368	80066	104204	128341	46.7	V3748	90.2	1	2
66MF/LM	328	62916	78034	93152	37.4	V3749	88.4	1	1
66MF/MM	328	71363	92877	114391	37.1	V3748	90.2	1	2
72MF	328	82498	117822	153146	45.2	2604528	90.0	1	1
66MF/LM	322	61765	76607	91448	36.1	V3749	88.4	1	1
66MF/MM	322	70058	91178	112298	35.7	V3748	90.2	1	2
72MF	322	80989	115667	150345	43.6	2604528	90.0	1	1

Pump Model	Pump Speed RPM	Minimum Flow US GPM	Mean Flow US GPM	Maximum Flow US GPM	Maximum Head Feet Per Stage	Impeller No	Best Efficiency Point %	Min Stages	Max Stages
72MF	294	73947	105609	137271	36.3	2604528	90.0	1	1