

Pump Selection Information

All Haskel pumps are identified by letters coding the type of pump, followed by a number indicating the practical working ratio

of the drive area to the hydraulic plunger area. These letters are explained in the chart below.

Pump Model Letter Coding

M	.875" stroke .33 hp miniature pump series	XH	2" stroke 1.5 + 2 hp Extreme High Pressure pump series
S	Stainless steel hydraulic piston and body	G	4.5" stroke 6 hp pump series
29723	.33 hp Chemical Pump	8	4.5" stroke 8 hp pump or booster series
D (Prefix)	Pump incorporates a Distance Piece	14	4" stroke 10 hp pump series
D (Suffix)	Double Acting pump	W	Polyurethane U-cup dynamic seal
4B	1" stroke .75 hp pump series (bottom inlet only)	F	UHMWPE (Ultra-high Molecular Weight Polyethylene Dynamic Seal
A	2" stroke 1.5 + 2 hp pump series	T	Reinforced teflon dynamic seal
H	2" stroke 1.5 + 2 hp High Pressure pump series	V	Viton o-ring static seal
-C	Filter, regulator with gauge and shut-off/speed control valve	-B	Bottom inlet
		-CP	Chemical Pump

Quick Model Comparison Chart

The chart to the right shows the pressure/flow capability of each pump in the range. The diagonal lines show constant output horsepower for each series. The model ratios are circled.

The diagonal horsepower lines in the chart below are based on 100 psi (7 bar) drive pressure. Drive flow requirement is different for each series as follows:

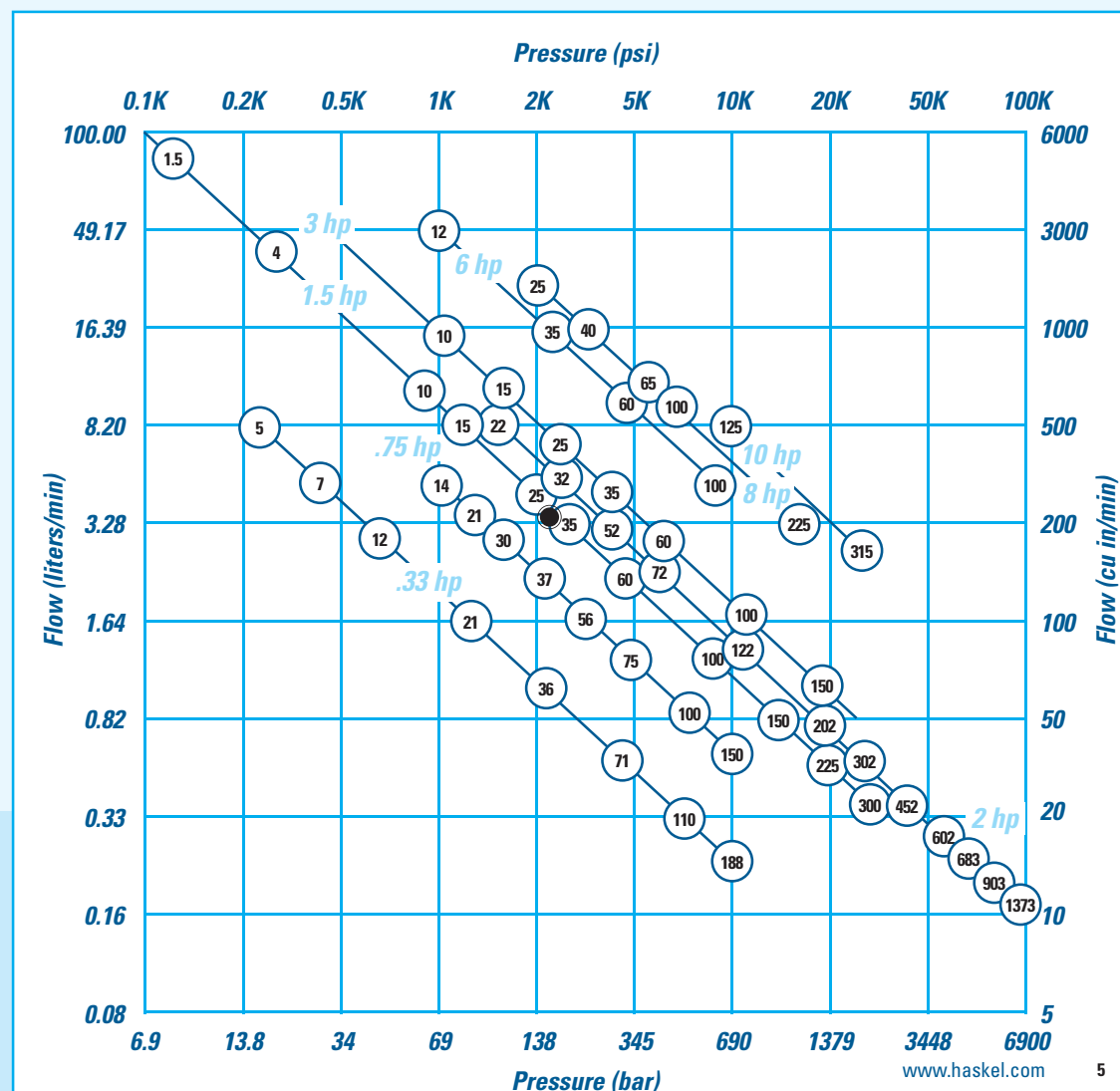
.33 hp	15 scfm (25 m³/hr)	3 hp	85 scfm (144 m³/hr)
.75 hp	45 scfm (76 m³/hr)	6 hp	175 scfm (297 m³/hr)
1.5 hp	70 scfm (119 m³/hr)	8 hp	225 scfm (382 m³/hr)
2 hp	85 scfm (144 m³/hr)	10 hp	270 scfm (459 m³/hr)

Reduced air drive flow or pressure will result in a corresponding reduction in output horsepower. This chart can be used to select pump series and model ratio.

Example

The pressure required is 2175 psi (150 bar). The flow required is 215 cubic inches (3.52 liters) per minute. The black dot plots position. Only models on diagonals to the right of the dot will meet the demand; e.g., the -35 ratio 1.5 hp pump, assuming a supply at 100 psi (7 bar) and 70 scfm (119m³/hr) can be met; if not, a -32 or -52 2 hp pump would be needed.

Note: For specific performance curves, refer to Liquid Pump Rapid Reference Guide.



Performance and Specification Overview

Max Drive	Drive Head	HP	Pump Model Code	Nominal Ratio	Actual Ratio	Maimimum Rated Output Pressure				Displacement/Cycle		Maximum Flow		
						Continuous		Intermittent						
						psi	bar	psi	bar	cu in	ml	cu in/min	l/min	
125 psi/8.6 bar	Single	0.33 hp	M, MDSTV	-5	5.6	625	43	625	43	0.83	13.6	506	8.30	
			M, MS	-7	7.8	900	62	900	62	0.60	9.8	366	6.00	
				-12	14	1500	103	1500	103	0.36	5.9	234	3.83	
			M, MS, 29723	-21	25	2600	179	2600	179	0.20	3.3	130	2.13	
				-36	41	4500	310	4500	310	0.12	2.0	78	1.28	
				-71	82	8800	607	8800	607	0.060	1.0	39	0.64	
				-110	126	13500	931	13500	931	0.039	0.6	25	0.42	
			M, MS	-188	217	15000	1034	15000	1034	0.023	0.4	18	0.29	
MS	-220	237	20000	1380	25000	1723	0.021	0.344	14	0.22				
100 psi/7 bar	Single	0.75 hp	4B	-14	16	1500	103	1500	103	0.90	14.7	428	7.01	
				-21	24	2300	159	2300	159	0.60	9.8	285	4.67	
				-25	29	2700	186	2700	186	0.50	8.2	238	3.89	
				-30	34	3200	221	3200	221	0.43	7.0	204	3.35	
				-37	42	3800	262	3800	262	0.35	5.7	166	2.72	
				-55	63	6000	414	6000	414	0.22	3.6	105	1.71	
				-75	86	7800	538	7800	538	0.17	2.8	81	1.32	
				-100	114	10600	731	10600	731	0.13	2.0	62	1.01	
-150	171	15000	1034	15000	1034	0.088	1.44	42	0.68					
150 psi/10.5 bar	Single	1.5 hp	DSTV ATV, DTV	-1.5	1.6	120	8	160	11	31.90	513	5104	83.6	
				-4	80	690	48	1200	83	20.00	328	3200	52.4	
			AW, ASF, DF, DSF, DSTV	-B10	11.5	1600	110	1600	110	4.05	66.4	1215	19.9	
				-B15	17	2400	165	2400	165	2.70	44.3	810	13.3	
				-25	29	4000	276	4000	276	1.62	26.6	486	8.0	
				-35	40	5700	393	5700	393	1.16	19.0	348	5.7	
				-60	69	9800	676	9800	676	0.67	11.0	201	3.3	
				-100	115	15000	1034	16500	1138	0.41	6.7	123	2.0	
				-150	173	15000	1034	20000	1380	0.27	4.5	81	1.3	
			HF, HSF, DHF, DSHF	-151	173	25000	1724	25000	1724	0.27	4.5	81	1.3	
				-225	260	30000	2069	37000	2551	0.18	3.0	41	0.7	
			HF	-300	345	30000	2069	50000	3448	0.14	2.3	32	0.5	
-450	533	25000		1724	45000	3403	0.091	1.5	20	0.3				
150 psi/10.5 bar	Double	2 hp	AW, ASF, DF, DSF, DSTV	-B22	23	3200	221	3200	221	4.05	66.4	1215	19.9	
				-B32	34	4800	331	4800	331	2.70	44.3	810	13.3	
				-52	57	5000	345	8000	552	1.62	26.6	486	8.0	
				-72	80	11000	758	11000	758	1.16	19.0	348	5.7	
				-122	138	15000	1034	19000	1310	0.67	11.0	201	3.3	
			HF, HSF, DHF, DSHF	-202	230	30000	2069	33000	2275	0.41	6.7	92	1.5	
				-302	346	30000	2069	50000	3448	0.27	4.5	61	1.0	
			DXHF, DSXHF	-452	520	30000	2069	70000	4827	0.18	3.0	41	0.7	
-602	690	30000		2069	75000	5171	0.14	2.3	32	0.5				
100 psi/7 bar	Triple	2 hp	DXHF, DSXHF	-683	780	30000	2069	70000	4827	0.18	3.0	25	0.41	
				-903	1038	30000	2069	75000	5171	0.14	2.3	20	0.33	
			DSXHW	-1373	1575	30000	2069	100000	6895	0.086	1.4	12	0.197	
150 psi/10.5 bar	2.2	3 hp	AFD, DFD, ASFD, DSFD		-B60	69	6500	448	6500	448	1.34	2.2	369	6.0
			ASFD	-10	11.5	1600	110	1600	110	8.10	133	1823	29.9	
				-15	17	2400	165	2400	165	5.40	89	1215	19.9	
				-25	29	4000	276	4000	276	3.24	53.2	729	11.9	
				-35	40	5700	393	5700	393	2.32	38.0	522	8.6	
				-60	69	9800	676	9800	676	1.34	22.0	302	4.9	
				-100	115	15000	1034	16500	1138	0.82	13.4	185	3.0	
				-150	173	15000	1034	20000	1380	0.54	9.0	122	2.0	
-202	230	30000	2069	33000	2275	0.82	13.4	144	2.4					
125 psi/8.6 bar	Single	6 hp	GWD, GSFD, DGFD, DGSFD, DGSTVD		-12	14.8	1850	128	4000	276	15.9	260	5009	82.1
			GW, DGF, GSF, DGSF, DGSTV	-35	40.3	4375	302	4375	302	6.0	98	1890	31.0	
				-60	69	7500	517	7500	517	3.5	57	1103	18.1	
				-100	115	8000	552	10000	690	2.1	34	662	10.8	
		8 hp	8SFD, 8DSFD, 8DSTVD		-25	27.5	3575	246	4000	276	14.0	229	2660	44
			8SFD	-40	43.5	6000	414	6000	414	8.90	145	1691	28	
				-65	73	10000	690	10000	680	5.40	88	1026	17	
			8DSFD	-100	112	10000	690	10000	680	3.52	57.5	669	11	
8HSFD	-225	253		22500	1530	22500	1530	1.56	25.5	296	5			
10 hp	D14STD, D14SFD	-125	138	16000	1103	16000	1103	8.80	144	704	11.5			
		-315	347	36000	2482	36000	2482	3.50	57.4	280	4.6			

Typical Performance Based on 100 psi (7 bar) Pressure and Drive Flow Data on Page 5							
Outlet Pressure		Outlet Flow		Outlet Pressure		Outlet Flow	
psi	bar	cu in/min	l/min	psi	bar	cu in/min	l/min
225	15.5	500	8.20	415	29	249	4.09
300	21	350	5.70	600	41	160	2.60
700	48	200	3.28	1125	78	100	1.64
1500	103	90	1.48	2000	138	48.9	0.80
1700	117	70	1.15	3100	214	39.6	0.65
3000	207	39	0.64	6000	414	19	0.31
7500	517	20	0.33	8500	586	17	0.28
5000	345	18	0.30	10000	690	14	0.23
7500	517	14	0.23	15000	1034	12	0.20
700	48	400	6.55	1450	100	61	1
1000	69	270	4.42	2000	138	120	2
1250	86	230	3.77	2500	172	61	1
1500	1034	200	3.28	3000	207	62	1
1750	121	170	2.78	3500	241	82	1.33
2000	138	110	1.8	5000	345	66	1.08
2500	172	87	1.42	7500	517	37	0.6
5000	345	57	0.93	10000	690	26	0.43
7500	517	37	0.6	15000	1034	7	0.11
50	3	5000	81.9	150	10.3	1000	16.4
100	7	1953	32	400	28	750	12.3
400	28	1000	16.4	990	68	500	8.19
750	52	598	9.8	1600	110	200	3.28
1000	69	403	6.6	2500	172	195	3.2
2000	138	350	4.1	3600	248	98	1.6
3000	207	152	2.5	6200	427	50	0.82
4000	276	100	1.64	10000	690	24.4	0.4
7000	483	59.7	0.98	15000	1034	29.9	0.49
7000	483	59.7	0.98	15000	1034	29.9	0.49
7500	517	39.6	0.65	24000	1655	9.8	0.16
15000	1034	29.9	0.49	27000	1862	20.1	0.33
36000	2483	14.6	0.24	45000	3103	9.2	0.15
400	28	799	13.1	2100	145	200	3.28
700	48	500	8.2	3000	207	152	2.5
1900	131	299	4.9	5000	345	97.6	1.6
2000	138	226	3.7	7500	517	50	0.82
4000	276	122	2	12000	828	40.2	0.66
7000	483	91.5	1.5	20000	1379	20.1	0.33
10000	690	45.2	0.74	30000	2069	15.2	0.25
10000	690	34.8	0.57	40000	2759	15.2	0.25
15000	1034	24.4	0.4	50000	3448	12.2	0.2
15000	1034	19.5	0.32	60000	4138	4.9	0.08
15000	1034	15.9	0.26	70000	4828	5.5	0.09
16000	1103	9.2	0.15	90000	6207	3.1	0.05
1000	69	348	5.7	5500	379	152	2.5
500	34	1520	24.9	1000	69	380	6.22
750	52	1030	16.88	1500	103	260	4.26
1000	69	662	10.85	2500	172	162	2.66
1500	1034	465	7.62	3500	248	100	1.64
3000	138	248	4.07	6000	414	56	0.92
5000	345	151	2.48	10000	690	41	0.67
7500	517	103	2	15000	1034	27	0.44
10000	690	63	1.03	20000	1379	47	0.77
200	14	5004	82	1200	83	1454	24
1000	69	1770	29	3500	241	600	9.8
2000	138	976	16	5500	379	397	6.5
2000	138	573	9.4	10000	690	195	3.2
1000	69	2400	39.3	2500	172	280	4.6
2000	138	1420	23.2	4000	276	200	3.27
3000	207	880	14.4	6000	414	310	5.08
5000	345	555	9.1	10000	690	163	2.67
10000	690	270	4.4	20000	1379	144	2.36
8000	552	488	8.0	12000	828	195	3.2
15000	1034	238	3.9	30000	2069	79.3	1.3



Guidelines for Continuous Duty Applications for Maximizing Seal Life Performance

Pump Series	Maximum Cycles per Minute
0.3 hp	325 cpm
0.75 hp	225 cpm
1.5, 2.0 and 2.2 hp (Single and Double Drive Piston)	80 cpm
2.0 hp (Triple Drive Piston)	60 cpm
3.0 hp	80 cpm
6.0 hp	60 cpm
8.0 hp	50 cpm
10.0 hp	40 cpm