

# Liberty LL4

## Progressive Cavity Pump

### Features

- \* Modular Design
- \* Maintenance Free
- \* Easy Assembly/Disassembly
- \* Simple Pin-Joint Connection
- \* Non-Pulsating Low Shear
- \* NPT Discharge Connection
- \* Can Be Run In Either Direction

### Pump Description

The Liberty LL4 Progressive Cavity Pump is an ideal low-costing progressive cavity pump for abrasive and wearing applications like grouting and other abrasive slurry mixtures. The LL4 Series PC Pump is a standard flanged pump design manufactured with cast iron or 316 stainless steel casings and designed in 1, 2, and 3 stages for 75, 150, and 225 psi discharge pressures pumping from 0-24 GPM. (2.02 Gallons per 100 revolutions).

The pump units modular design with simple hardened pinned joint drive assembly ensures ease of use with increased durability. The LL4 Series Progressive Cavity Pump Rotors are typically tool steel or 316 stainless steel with a hard chrome plating. All other wetted parts are either carbon steel or 316 stainless steel. Stators are available in many elastomer materials such as buna, natural rubber, epdm and viton depending upon application.

The standard seal design is a set of packing rope; however, mechanical seal assembly retrofits are readily available. The Liberty LL4 Progressive Cavity Pump parts are direct aftermarket replacements that work with the Moyno™ L4 Series, Tarby™ TL4 Series and Continental™ CL4 Series.\*

Please contact Liberty process Equipment Today for more information on the LL4 Liberty Series of Progressive Cavity Pumps.

Contact a Liberty Process representative today for more information about the LL4 Series.

### Materials

**Rotor:** Chrome-Plated Tool Steel & Stainless Steel

**Stator:** Buna, Rubber, Viton™, EPDM

**Motor:** 1/2, 3/4, 1, 1.5, and 2 hp

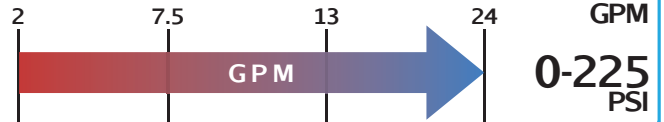
**Inlet:** 2-1/2"

**Outlet:** 2"

**Bases:** Carbon and Stainless Steel



Liberty LL4



### Curves



Single Stage



Double Stage



Triple Stage

Please Click the Icon

### Drawings



Single Stage



Double Stage



Triple Stage

Please Click the Icon

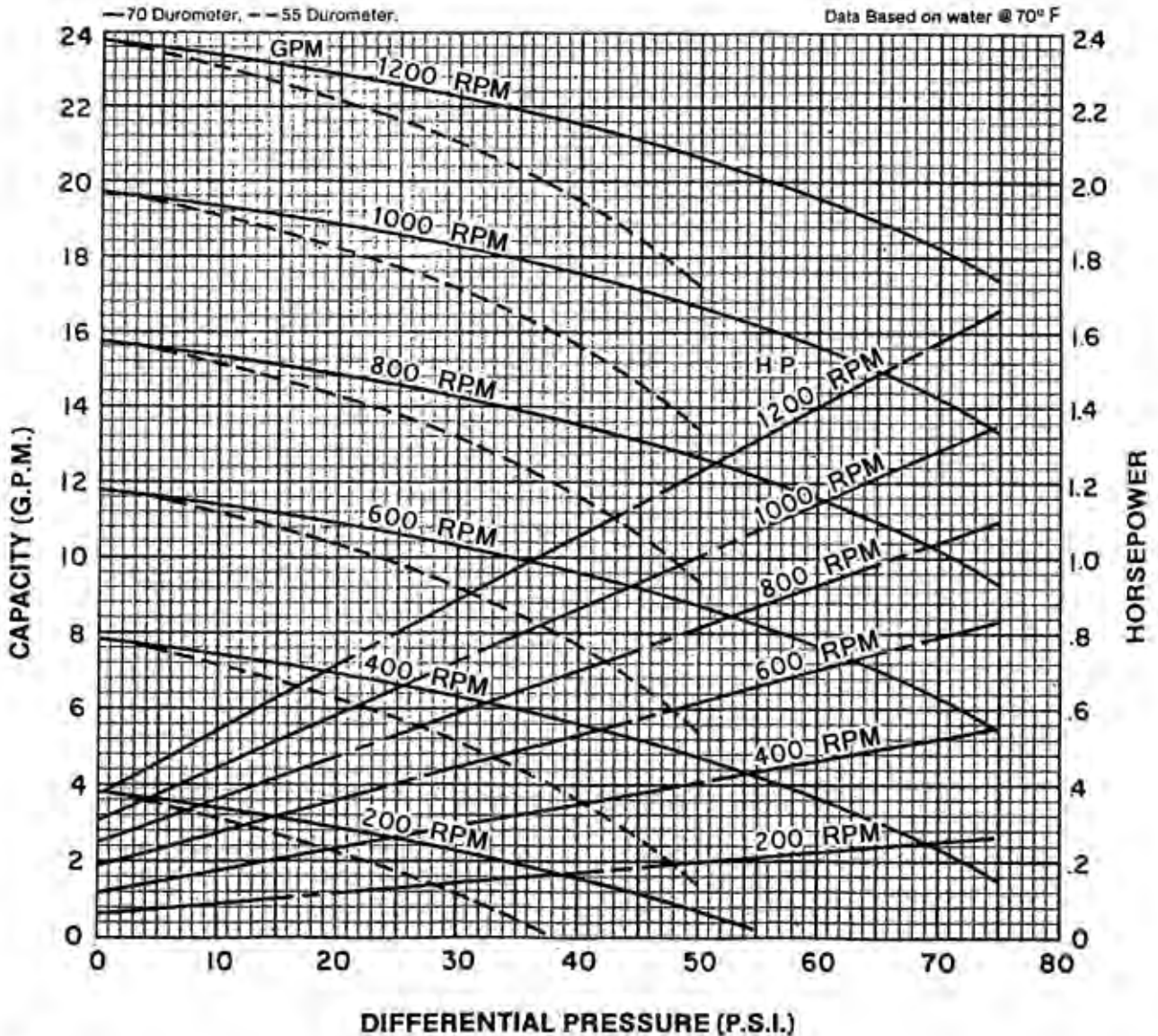
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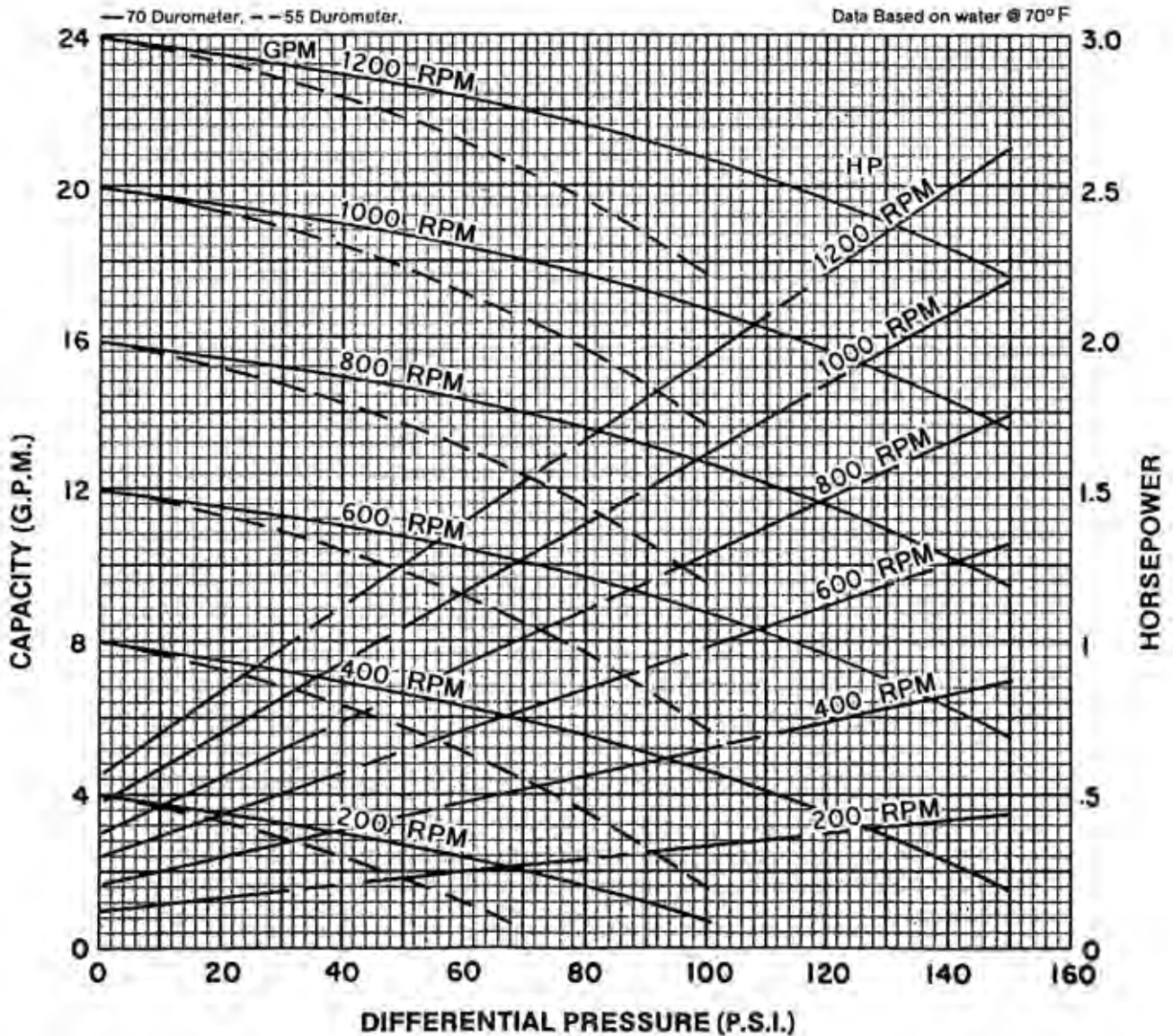
# Liberty 1LL4

RPM	200	400	600	800	1000	1200	
NPSH REQ'D	.9	1.7	2.6	3.4	4.8	6.7	
MIN. HP	1/3	1/2	1/2	3/4	1	1	



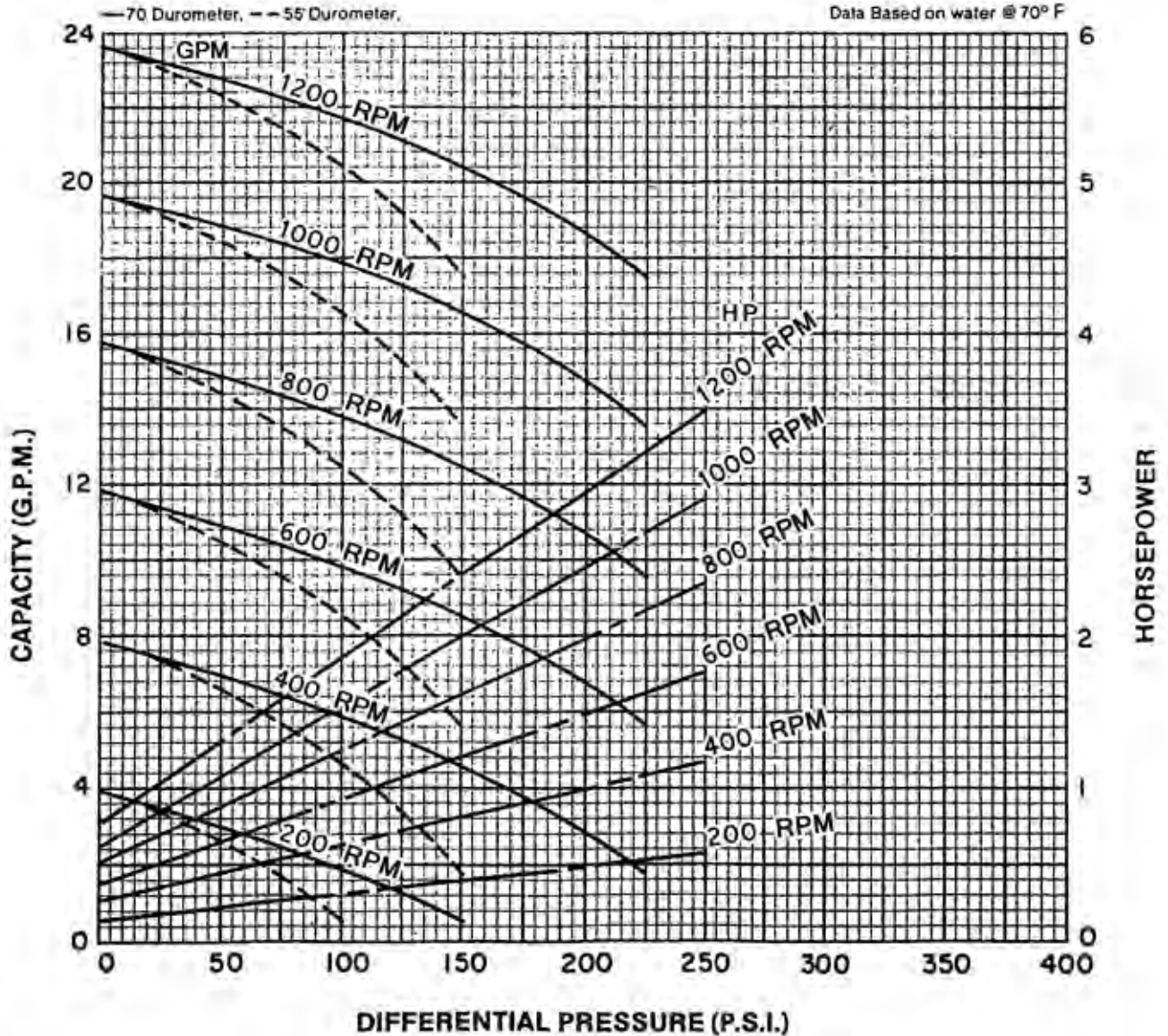
# Liberty 2LL4

RPM	200	400	600	800	1000	1200	
NPSH REQ'D	.9	1.7	2.6	3.4	4.8	6.7	
MIN. HP	1/3	1/2	3/4	1	1 1/2	1 1/2	



# Liberty 3LL4

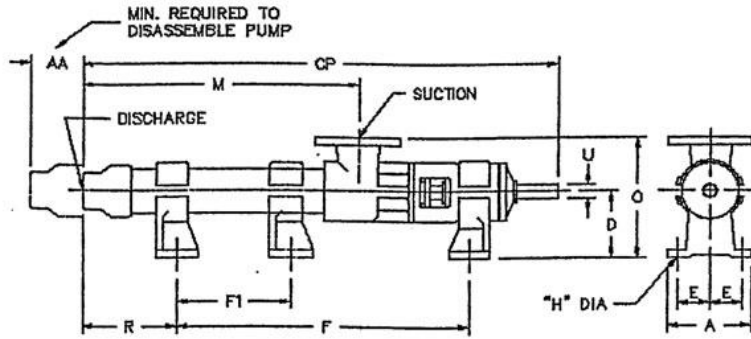
RPM	200	400	600	800	1000	1200	
NPSH REQ'D	.9	1.7	2.6	3.4	4.8	6.7	
MIN. HP	1/2	3/4	1	1 1/2	2	2	







# Liberty Pump Series – Dimension Sheet



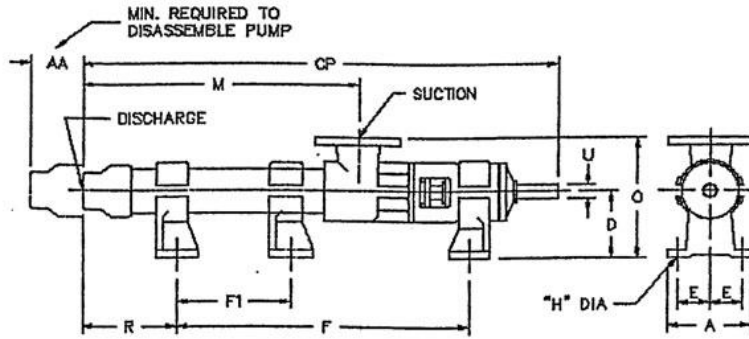
### Standard Pump Dimensions

Model	AA	CP	A	D	E	F	F1	H	M	O	R	U	Suct. Size	Disc. Size	Approx. Lbs.
2ML1	6.50	17.31	4.00	3.25	1.56	8.50	-	.37	7.62	5.88	4.56	.62	1.00	.75	22
3ML1	6.50	19.12	4.00	3.25	1.56	9.62	-	.37	9.44	5.88	5.25	.62	1.00	.75	24
6ML1	6.50	24.69	4.00	3.25	1.56	15.75	-	.37	15.00	5.88	4.69	.62	1.00	.75	30
1LL2	6.50	17.25	4.00	3.25	1.56	8.50	-	.37	7.56	5.88	4.50	.62	1.00	.75	22
2LL2	6.50	20.75	4.00	3.25	1.56	10.50	-	.37	11.06	5.88	6.00	.62	1.00	.75	25
3LL2	6.50	24.37	4.00	3.25	1.56	12.00	-	.37	14.69	5.88	8.12	.62	1.00	.75	31
6ML2	8.37	39.12	5.75	4.12	2.12	25.50	14.00	.44	26.50	7.31	7.94	.75	1.50	.75	55
1LL3	8.37	23.00	5.37	4.12	2.12	11.50	-	.44	10.37	7.31	5.81	.75	1.50	1.25	47
2LL3	8.37	28.31	5.37	4.12	2.12	13.00	-	.44	15.69	7.31	9.62	.75	1.50	1.25	51
3LL3	8.37	33.62	5.37	4.12	2.12	16.50	-	.44	21.00	7.31	11.44	.75	1.50	1.25	55
6ML3	11.37	54.62	7.00	5.50	2.75	37.50	22.00	.56	37.75	9.88	10.12	.94	2.50	1.25	105
<b>1LL4</b>	<b>11.37</b>	<b>30.37</b>	<b>7.00</b>	<b>5.50</b>	<b>2.75</b>	<b>15.75</b>	-	<b>.56</b>	<b>13.50</b>	<b>9.88</b>	<b>7.62</b>	<b>.94</b>	<b>2.50</b>	<b>2.00</b>	<b>85</b>
2LL4	11.37	37.44	7.00	5.50	2.75	22.00	-	.56	20.56	9.88	8.44	.94	2.50	2.00	91
3LL4	11.37	44.50	7.00	5.50	2.75	22.75	-	.56	27.62	9.88	14.75	.94	2.50	2.00	97
6ML4	14.25	71.25	8.62	6.25	3.50	45.00	25.00	.69	49.94	11.25	17.69	1.12	3.00	2.50	171
1LL6	14.25	39.37	8.62	6.25	3.50	20.00	-	.69	18.06	11.25	10.81	1.12	3.00	2.50	141
2LL6	14.25	50.00	8.62	6.25	3.50	26.00	-	.69	28.69	11.25	15.44	1.12	3.00	2.50	159
3LL6	14.25	60.62	8.62	6.25	3.50	38.00	18.00	.69	39.31	11.25	14.06	1.12	3.00	2.50	192
1LL8	18.37	46.31	11.50	8.00	4.50	27.00	-	.88	20.50	14.00	10.06	1.37	4.00	4.00	303
2LL8	18.37	58.75	11.50	8.00	4.50	32.00	-	.88	32.94	14.00	17.50	1.37	4.00	4.00	322
3LL8	18.37	71.12	11.50	8.00	4.50	49.00	24.00	.88	45.31	14.00	12.88	1.37	4.00	4.00	372
1LL10	31.88	53.62	11.50	9.75	4.50	30.00	-	.88	22.37	16.69	10.12	1.88	6.00	5.00	412
2LL10	31.88	64.00	11.50	9.75	4.50	35.50	-	.88	32.75	16.69	15.00	1.88	6.00	5.00	460
3LL10	31.88	74.37	11.50	9.75	4.50	48.00	18.00	.88	43.12	16.69	12.88	1.88	6.00	5.00	545
1LL10H	31.88	59.00	11.50	9.75	4.50	30.00	-	.88	27.75	16.69	15.50	1.88	6.00	5.00	424
2LL10H	31.88	74.37	11.50	9.75	4.50	48.00	18.00	.88	43.12	16.69	12.88	1.88	6.00	5.00	545
1LL12	37.75	70.19	14.50	12.50	6.31	37.50	-	1.00	31.44	21.00	14.69	2.25	8.00	6.00	880
2LL12	37.75	85.88	14.50	12.50	6.31	55.50	20.50	1.00	47.50	21.00	12.37	2.25	8.00	6.00	1075
3LL12	37.75	101.44	14.50	12.50	6.31	69.00	27.00	1.00	62.69	21.00	14.44	2.25	8.00	6.00	1200
1LL12H	37.75	78.00	14.50	12.50	6.31	42.00	-	1.00	39.25	21.00	18.00	2.25	8.00	6.00	945
2LL12H	37.75	101.44	14.50	12.50	6.31	69.00	27.00	1.00	62.69	21.00	14.44	2.25	8.00	6.00	1205

\*All listed dimensions in inches



# Liberty Pump Series – Dimension Sheet



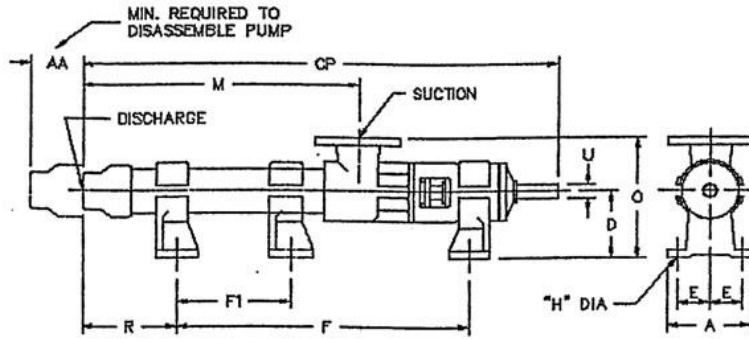
### Standard Pump Dimensions

Model	AA	CP	A	D	E	F	F1	H	M	O	R	U	Suct. Size	Disc. Size	Approx. Lbs.
2ML1	6.50	17.31	4.00	3.25	1.56	8.50	-	.37	7.62	5.88	4.56	.62	1.00	.75	22
3ML1	6.50	19.12	4.00	3.25	1.56	9.62	-	.37	9.44	5.88	5.25	.62	1.00	.75	24
6ML1	6.50	24.69	4.00	3.25	1.56	15.75	-	.37	15.00	5.88	4.69	.62	1.00	.75	30
1LL2	6.50	17.25	4.00	3.25	1.56	8.50	-	.37	7.56	5.88	4.50	.62	1.00	.75	22
2LL2	6.50	20.75	4.00	3.25	1.56	10.50	-	.37	11.06	5.88	6.00	.62	1.00	.75	25
3LL2	6.50	24.37	4.00	3.25	1.56	12.00	-	.37	14.69	5.88	8.12	.62	1.00	.75	31
6ML2	8.37	39.12	5.75	4.12	2.12	25.50	14.00	.44	26.50	7.31	7.94	.75	1.50	.75	55
1LL3	8.37	23.00	5.37	4.12	2.12	11.50	-	.44	10.37	7.31	5.81	.75	1.50	1.25	47
2LL3	8.37	28.31	5.37	4.12	2.12	13.00	-	.44	15.69	7.31	9.62	.75	1.50	1.25	51
3LL3	8.37	33.62	5.37	4.12	2.12	16.50	-	.44	21.00	7.31	11.44	.75	1.50	1.25	55
6ML3	11.37	54.62	7.00	5.50	2.75	37.50	22.00	.56	37.75	9.88	10.12	.94	2.50	1.25	105
1LL4	11.37	30.37	7.00	5.50	2.75	15.75	-	.56	13.50	9.88	7.62	.94	2.50	2.00	85
<b>2LL4</b>	<b>11.37</b>	<b>37.44</b>	<b>7.00</b>	<b>5.50</b>	<b>2.75</b>	<b>22.00</b>	-	<b>.56</b>	<b>20.56</b>	<b>9.88</b>	<b>8.44</b>	<b>.94</b>	<b>2.50</b>	<b>2.00</b>	<b>91</b>
3LL4	11.37	44.50	7.00	5.50	2.75	22.75	-	.56	27.62	9.88	14.75	.94	2.50	2.00	97
6ML4	14.25	71.25	8.62	6.25	3.50	45.00	25.00	.69	49.94	11.25	17.69	1.12	3.00	2.50	171
1LL6	14.25	39.37	8.62	6.25	3.50	20.00	-	.69	18.06	11.25	10.81	1.12	3.00	2.50	141
2LL6	14.25	50.00	8.62	6.25	3.50	26.00	-	.69	28.69	11.25	15.44	1.12	3.00	2.50	159
3LL6	14.25	60.62	8.62	6.25	3.50	38.00	18.00	.69	39.31	11.25	14.06	1.12	3.00	2.50	192
1LL8	18.37	46.31	11.50	8.00	4.50	27.00	-	.88	20.50	14.00	10.06	1.37	4.00	4.00	303
2LL8	18.37	58.75	11.50	8.00	4.50	32.00	-	.88	32.94	14.00	17.50	1.37	4.00	4.00	322
3LL8	18.37	71.12	11.50	8.00	4.50	49.00	24.00	.88	45.31	14.00	12.88	1.37	4.00	4.00	372
1LL10	31.88	53.62	11.50	9.75	4.50	30.00	-	.88	22.37	16.69	10.12	1.88	6.00	5.00	412
2LL10	31.88	64.00	11.50	9.75	4.50	35.50	-	.88	32.75	16.69	15.00	1.88	6.00	5.00	460
3LL10	31.88	74.37	11.50	9.75	4.50	48.00	18.00	.88	43.12	16.69	12.88	1.88	6.00	5.00	545
1LL10H	31.88	59.00	11.50	9.75	4.50	30.00	-	.88	27.75	16.69	15.50	1.88	6.00	5.00	424
2LL10H	31.88	74.37	11.50	9.75	4.50	48.00	18.00	.88	43.12	16.69	12.88	1.88	6.00	5.00	545
1LL12	37.75	70.19	14.50	12.50	6.31	37.50	-	1.00	31.44	21.00	14.69	2.25	8.00	6.00	880
2LL12	37.75	85.88	14.50	12.50	6.31	55.50	20.50	1.00	47.50	21.00	12.37	2.25	8.00	6.00	1075
3LL12	37.75	101.44	14.50	12.50	6.31	69.00	27.00	1.00	62.69	21.00	14.44	2.25	8.00	6.00	1200
1LL12H	37.75	78.00	14.50	12.50	6.31	42.00	-	1.00	39.25	21.00	18.00	2.25	8.00	6.00	945
2LL12H	37.75	101.44	14.50	12.50	6.31	69.00	27.00	1.00	62.69	21.00	14.44	2.25	8.00	6.00	1205

\*All listed dimensions in inches



# Liberty Pump Series – Dimension Sheet



### Standard Pump Dimensions

Model	AA	CP	A	D	E	F	F1	H	M	O	R	U	Suct. Size	Disc. Size	Approx. Lbs.
2ML1	6.50	17.31	4.00	3.25	1.56	8.50	-	.37	7.62	5.88	4.56	.62	1.00	.75	22
3ML1	6.50	19.12	4.00	3.25	1.56	9.62	-	.37	9.44	5.88	5.25	.62	1.00	.75	24
6ML1	6.50	24.69	4.00	3.25	1.56	15.75	-	.37	15.00	5.88	4.69	.62	1.00	.75	30
1LL2	6.50	17.25	4.00	3.25	1.56	8.50	-	.37	7.56	5.88	4.50	.62	1.00	.75	22
2LL2	6.50	20.75	4.00	3.25	1.56	10.50	-	.37	11.06	5.88	6.00	.62	1.00	.75	25
3LL2	6.50	24.37	4.00	3.25	1.56	12.00	-	.37	14.69	5.88	8.12	.62	1.00	.75	31
6ML2	8.37	39.12	5.75	4.12	2.12	25.50	14.00	.44	26.50	7.31	7.94	.75	1.50	.75	55
1LL3	8.37	23.00	5.37	4.12	2.12	11.50	-	.44	10.37	7.31	5.81	.75	1.50	1.25	47
2LL3	8.37	28.31	5.37	4.12	2.12	13.00	-	.44	15.69	7.31	9.62	.75	1.50	1.25	51
3LL3	8.37	33.62	5.37	4.12	2.12	16.50	-	.44	21.00	7.31	11.44	.75	1.50	1.25	55
6ML3	11.37	54.62	7.00	5.50	2.75	37.50	22.00	.56	37.75	9.88	10.12	.94	2.50	1.25	105
1LL4	11.37	30.37	7.00	5.50	2.75	15.75	-	.56	13.50	9.88	7.62	.94	2.50	2.00	85
2LL4	11.37	37.44	7.00	5.50	2.75	22.00	-	.56	20.56	9.88	8.44	.94	2.50	2.00	91
<b>3LL4</b>	<b>11.37</b>	<b>44.50</b>	<b>7.00</b>	<b>5.50</b>	<b>2.75</b>	<b>22.75</b>	-	<b>.56</b>	<b>27.62</b>	<b>9.88</b>	<b>14.75</b>	<b>.94</b>	<b>2.50</b>	<b>2.00</b>	<b>97</b>
6ML4	14.25	71.25	8.62	6.25	3.50	45.00	25.00	.69	49.94	11.25	17.69	1.12	3.00	2.50	171
1LL6	14.25	39.37	8.62	6.25	3.50	20.00	-	.69	18.06	11.25	10.81	1.12	3.00	2.50	141
2LL6	14.25	50.00	8.62	6.25	3.50	26.00	-	.69	28.69	11.25	15.44	1.12	3.00	2.50	159
3LL6	14.25	60.62	8.62	6.25	3.50	38.00	18.00	.69	39.31	11.25	14.06	1.12	3.00	2.50	192
1LL8	18.37	46.31	11.50	8.00	4.50	27.00	-	.88	20.50	14.00	10.06	1.37	4.00	4.00	303
2LL8	18.37	58.75	11.50	8.00	4.50	32.00	-	.88	32.94	14.00	17.50	1.37	4.00	4.00	322
3LL8	18.37	71.12	11.50	8.00	4.50	49.00	24.00	.88	45.31	14.00	12.88	1.37	4.00	4.00	372
1LL10	31.88	53.62	11.50	9.75	4.50	30.00	-	.88	22.37	16.69	10.12	1.88	6.00	5.00	412
2LL10	31.88	64.00	11.50	9.75	4.50	35.50	-	.88	32.75	16.69	15.00	1.88	6.00	5.00	460
3LL10	31.88	74.37	11.50	9.75	4.50	48.00	18.00	.88	43.12	16.69	12.88	1.88	6.00	5.00	545
1LL10H	31.88	59.00	11.50	9.75	4.50	30.00	-	.88	27.75	16.69	15.50	1.88	6.00	5.00	424
2LL10H	31.88	74.37	11.50	9.75	4.50	48.00	18.00	.88	43.12	16.69	12.88	1.88	6.00	5.00	545
1LL12	37.75	70.19	14.50	12.50	6.31	37.50	-	1.00	31.44	21.00	14.69	2.25	8.00	6.00	880
2LL12	37.75	85.88	14.50	12.50	6.31	55.50	20.50	1.00	47.50	21.00	12.37	2.25	8.00	6.00	1075
3LL12	37.75	101.44	14.50	12.50	6.31	69.00	27.00	1.00	62.69	21.00	14.44	2.25	8.00	6.00	1200
1LL12H	37.75	78.00	14.50	12.50	6.31	42.00	-	1.00	39.25	21.00	18.00	2.25	8.00	6.00	945
2LL12H	37.75	101.44	14.50	12.50	6.31	69.00	27.00	1.00	62.69	21.00	14.44	2.25	8.00	6.00	1205

\*All listed dimensions in inches