



# Mixed Flow & Axial Flow Pumps



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## Mixed Flow & Axial Flow Pumps

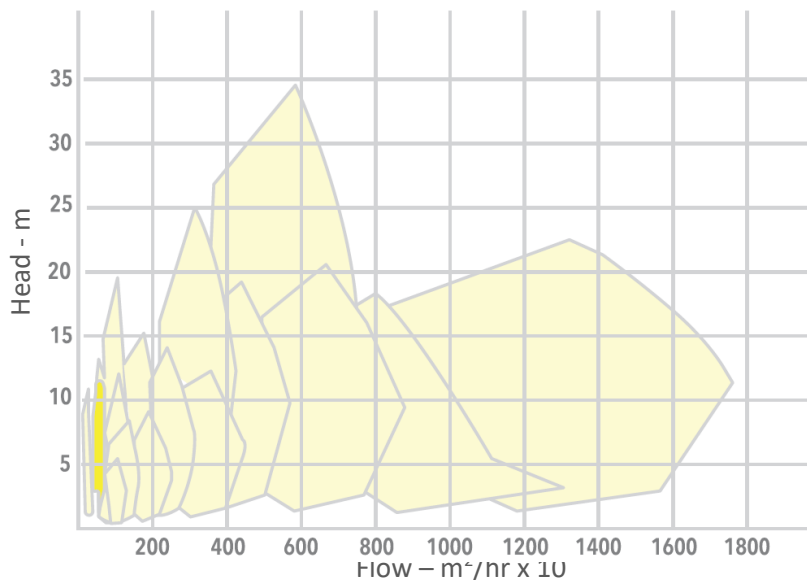
Sterling mixed flow and axial flow pumps are a simple design that occupies minimal floor space. They are designed to move large volumes of liquid for irrigation, dewatering and industrial duties.

Designed by Australian engineers using the latest hydraulic design software and developed from decades of operational and test history from our heritage Johnston and Harland pump designs, these units are proven to provide high efficiency and excellent reliability for years

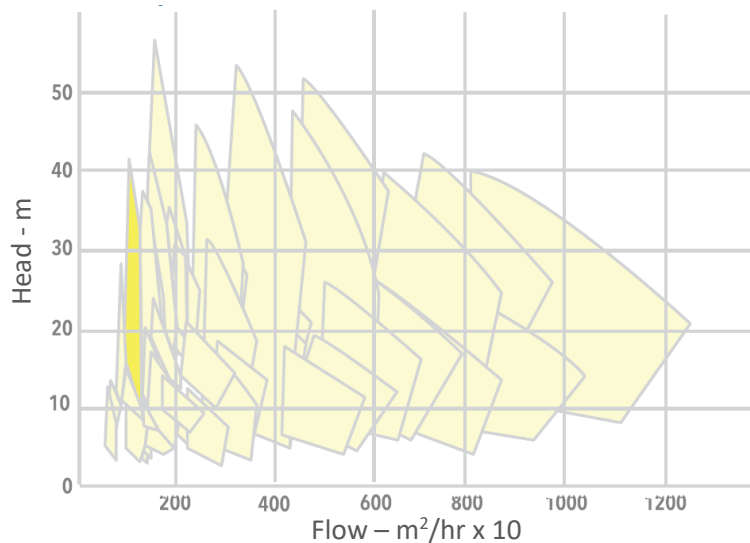
Pumps may be driven by electric motor or diesel drive via a hollow shaft gearbox. They can be supplied fully assembled and tested in our substantial Melbourne facility. Shaft may be either product lubricated or oil lubricated with enclosing tubes. Sterling's engineers are able to design hydraulics and components for specific applications or pump can be supplied from our vast selection of standard products in cast iron, bronze or stainless steel materials.

See Sterling Pumps website for pump selection: [www.sterlingpumps.com.au](http://www.sterlingpumps.com.au)

### Axial Flow Pump Performance

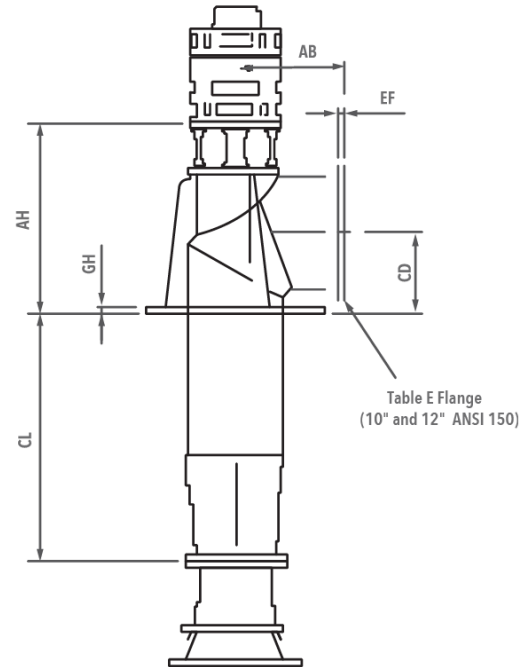
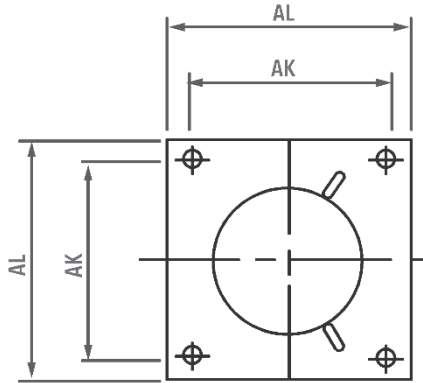


### Mixed Flow Pump Performance



## Propeller & Mixed Flow Turbine Pumps

### Surface Discharge Elbow Dimensions



	AB	FE	GH	AH	AL	AK	CD
8"	277	22	25	373	574	432	188
10"	356	22	25	490	635	409	267
12"	381	22	25	559	635	449	305
14"	368	22	25	812	650	550	383
16"	421	22	25	942	650	850	431
18"	406	19	25	1143	762	686	457
20"	457	19	32	1295	813	737	457
24"	559	19	32	1448	914	838	559
30"	660	19	32	1626	1067	991	660
36"	762	25	32	1854	1219	1143	813
42"	914	25	32	2032	1372	1295	914
48"	1016	25	32	2261	1676	1600	1067
54"	1168	25	38	2489	1829	1753	1168

### Minimum Column Length "CL"

	8"	10"	12"	14"	16"	18"	20"	24"	30"	36"	42"	48"
8"	0											
10"	305	0										
12"	610	305	0									
14"		610	305	0								
16"		914	610	305	0							
18"			914	610	305	0						
20"				914	610	305	0					
24"				1524	1219	914	610	0				
30"						1829	1524	914	0			
36"							2438	1829	914	0		
42"									1829	914	0	
48"										1829	914	0
54"											1829	914

Due to continuous improvement – confirm dimensions with Sterling Pumps

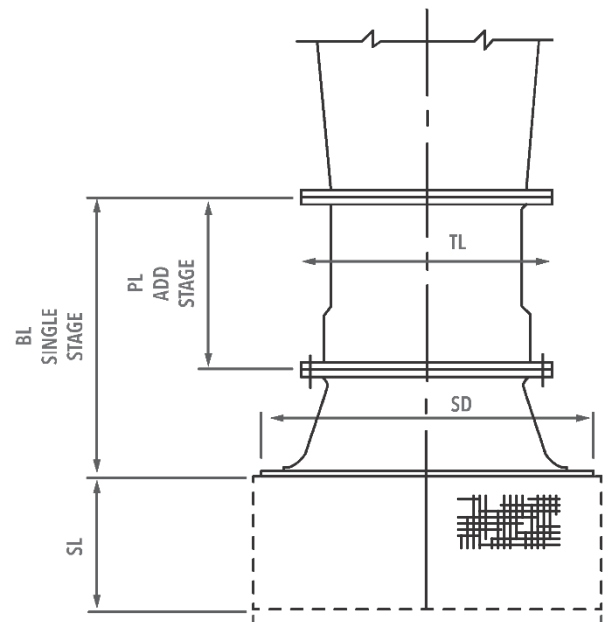


## Propeller Bowl Assembly

### Dimensions and Data

Bowl Size	Bowl Shaft Diameter (inches)	Weight of Rotating Parts per Stage (kg)	Thrust Constant "K" (kg/m)	Maximum Sphere Size (1)	WR <sup>2</sup> per Stage (kg/m <sup>2</sup> ) (2)
8"	1	5.45	30	44.45	0.01096
10"	1 <sup>3</sup> / <sub>16</sub>	9.09	48	57.15	0.03034
12"	1½	18.18	72	73.025	0.08007
14"	1 <sup>11</sup> / <sub>16</sub>	22.73	98	85.725	0.14328
16"	1 <sup>11</sup> / <sub>16</sub>	27.27	128	101.6	0.24441
20"	1 <sup>15</sup> / <sub>16</sub>	52.27	201	123.825	0.75852
24"	2 <sup>7</sup> / <sub>16</sub>	90.91	289	149.225	1.72774
30"	2 <sup>11</sup> / <sub>16</sub>	154.55	453	184.15	7.41664
36"	3 <sup>3</sup> / <sub>16</sub>	259.09	652	222.25	11.79920
42"	4	445.45	886	228.6	28.65520
48"	4	568.18	1160	298.45	50.56800
54"	4	813.64	1470	330.2	96.92200
60"	4	1013.64	1817	368.3	155.91800
72"	4	1809.09	2620	444.5	421.40000

Bowl Size	BL	PL	SD	SL	TL
8"	308	191	337	152	292
10"	389	240	425	178	340
12"	487	298	521	203	416
14"	565	349	597	229	473
16"	654	400	676	279	527
20"	810	492	851	305	645
24"	978	597	1067	368	762
30"	1226	749	1270	457	914
36"	1473	902	1524	508	1118
42"	1715	1054	1829	508	1257
48"	1943	1194	2032	610	1422
54"	2197	1353	2438	660	1626
60"	2451	1499	2540	711	1803
72"	2946	1803	3048	813	2159

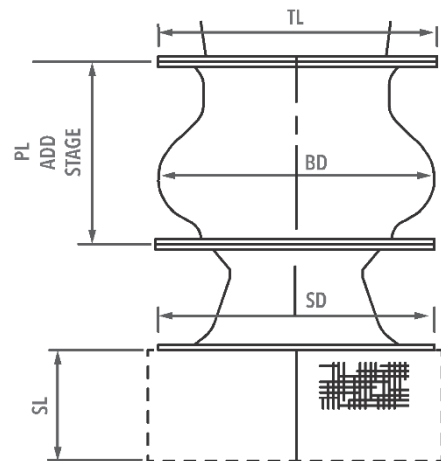


## Mixed Flow Bowl Assembly

### Dimensions and Data

Bowl Size	Bowl Shaft Diameter (inches)	Weight of Rotating Parts per Stage (kg)	Thrust Constant "K" (kg/m)	Maximum Sphere Size (1)				WR2 per Stage (kg/m <sup>2</sup> ) (2)
				LM	MM	PM		
				5V	5V	5V	6V	
8"	1	5.5	20.9	22.2	31.8	31.8	22.2	0.01348
10"	1½	14.1	31.3	31.8	41.3	41.3	31.8	0.04045
12"	1 <sup>11</sup> / <sub>16</sub>	20.0	46.2	41.3	50.8	50.8	41.3	0.09692
14"	1 <sup>15</sup> / <sub>16</sub>	31.8	62.6	47.6	60.3	60.3	47.6	0.20227
16"	2 <sup>7</sup> / <sub>16</sub>	54.5	82.0	54.0	66.7	66.7	54.0	0.44668
18"	2 <sup>7</sup> / <sub>16</sub>	61.4	104.4	60.3	76.2	76.2	60.3	0.71638
20"	2 <sup>11</sup> / <sub>16</sub>	84.1	129.7	69.9	85.7	85.7	69.9	1.22206
24"	2 <sup>11</sup> / <sub>16</sub>	131.8	186.4	82.6	101.6	101.6	82.6	3.20264
30"	3 <sup>7</sup> / <sub>16</sub>	250.0	289.2	101.6	127.0	127.0	101.6	9.35508
36"	4	431.8	420.4	120.7	152.4	152.4	120.7	23.59840
42"	4½	590.9	572.5	142.9	177.8	177.8	142.9	44.66840
50"	5	818.2	808.1	171.5	209.6	209.6	171.5	109.14260
54"	5½	1136.4	939.3	181.0	228.6	228.6	181.0	172.77400

Bowl Size	BL	PL	SD	SL	TL	BD
8"	330.2	203.2	304.8	152.4	292.1	257.9
10"	419.1	254.0	355.6	177.8	339.7	320.7
12"	489.0	304.8	431.8	203.2	415.9	381.8
14"	584.2	355.6	504.8	228.6	473.1	446.1
16"	673.1	406.4	571.5	254.0	527.1	509.6
18"	755.7	457.2	647.7	279.4	584.2	571.5
20"	838.2	508.0	723.9	304.8	644.5	635.0
24"	1003.3	609.6	850.9	304.8	762.0	758.8
30"	1257.3	762.0	1066.8	368.3	914.4	943.0
36"	1511.3	914.4	1282.7	406.4	1117.6	1130.3
42"	1752.6	1066.8	1498.6	457.2	1257.3	1314.5
50"	2082.8	1270.0	1778.0	508.0	1485.9	1574.8
54"	2247.9	1371.6	1930.4	609.6	1587.5	1701.8





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