

SUBMERSIBLE TURBINE PUMPS

8" STS SERIES - 450 GPM

FPS

FEATURES

- Premium ductile iron casting for longer life and higher pressures
- Longer discharge and motor bracket bearings for increased pump life
- Spiral cutlass rubber intermediate bearings designed for abrasive environments
- 416 stainless steel pump shaft ground and polished for maximum durability
- Investment cast stainless steel impellers for maximum abrasion resistance
- Custom pumps available

SPECIFICATIONS

- 8" minimum well I.D.
- 10' minimum submergence above inlet
- 4" or 6" NPT discharge

NOTE: Refer to Franklin Electric AIM data for motor cooling requirements



MODEL NO. EXPLANATION

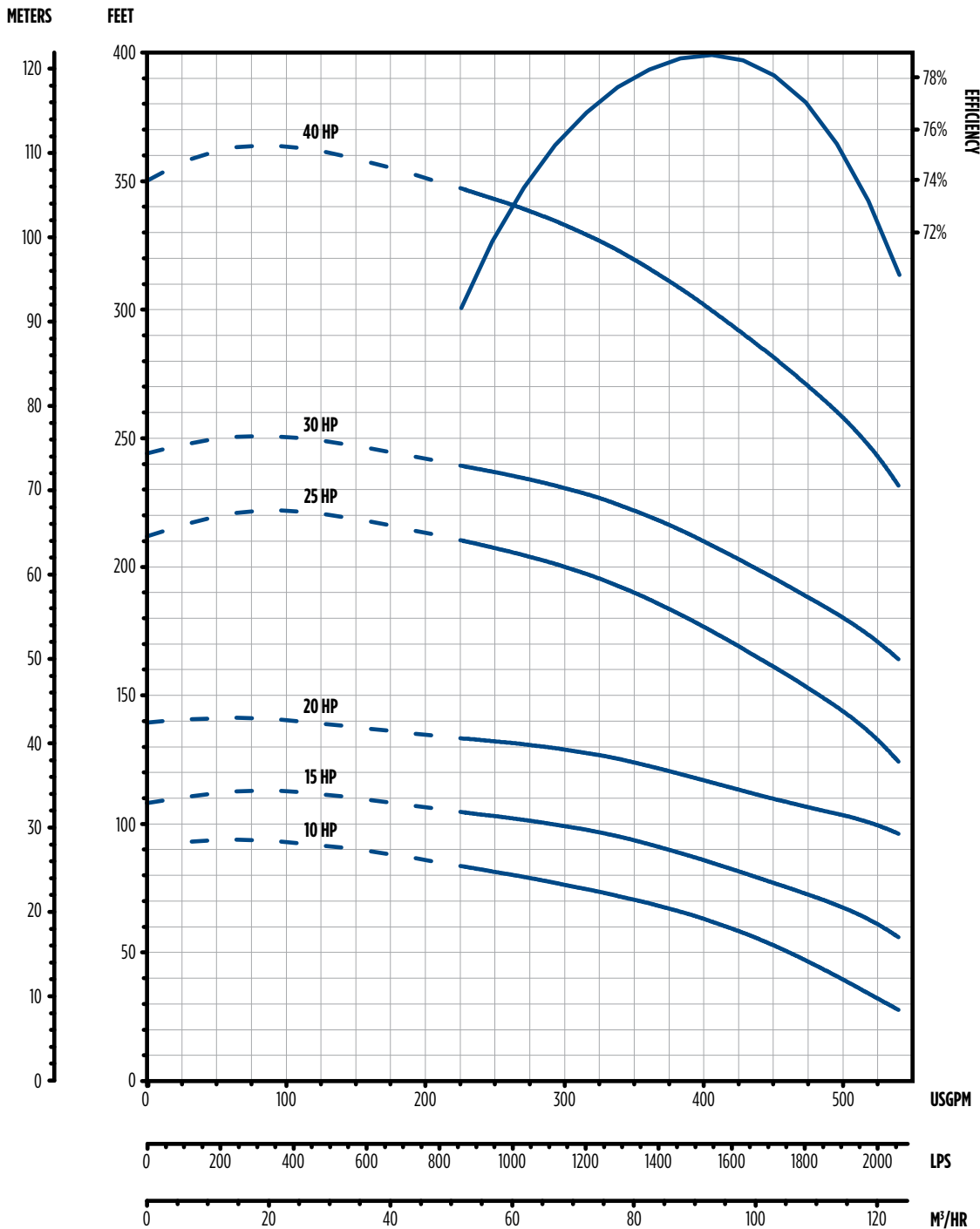
- Example: 450STS10D8C-0164
- 350 = GPM
- STS = Sub Turbine Series
- 10 = Motor HP
- D = Ductile Iron
- 8 = 8" Pump
- C = Impeller Trim Configuration
- 01 = Number of Stages
- 6 = 6" Motor Bracket
- 4 = 4" Discharge

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PERFORMANCE



— RECOMMENDED OPERATING RANGE

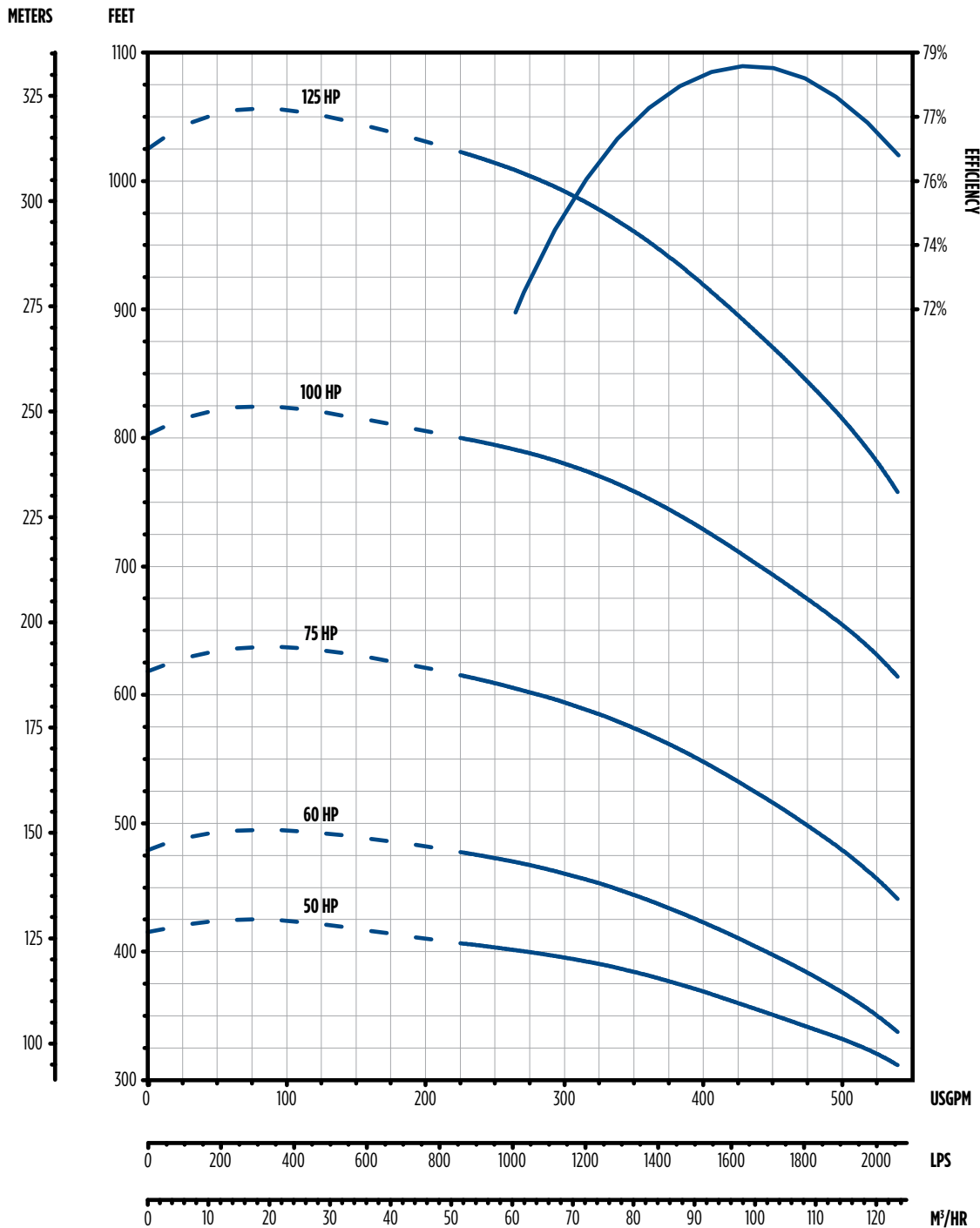
NOTE: Performance based on 68 °F fresh water; 6" motor at 3450 rpm; 8" motor at 3520 rpm

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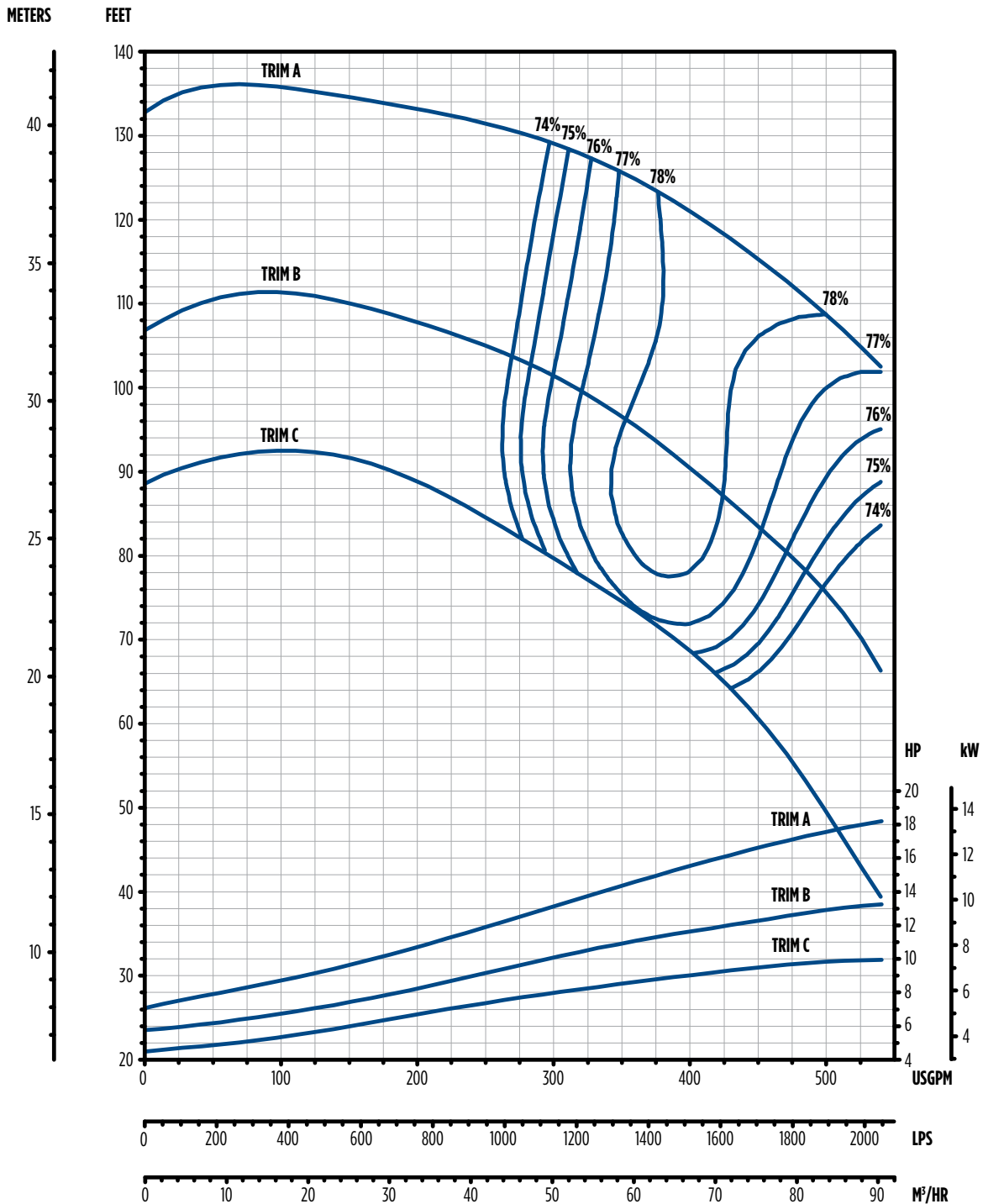
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PERFORMANCE

SINGLE-STAGE



NOTE: Efficiencies are typical and not guaranteed. Efficiency correction required for low stage count (1-stage 7% and 2-stage 1%).
 Bowl #13 begins transition to double-bolted (8 bolts @ bottom, 16 bolts @ top). Nominal RPM is 3450.

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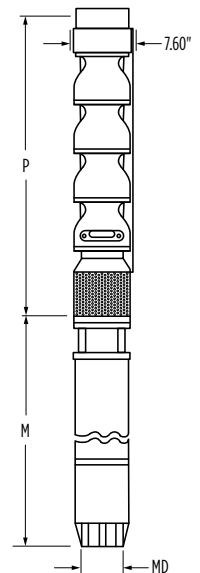
ORDERING INFORMATION

HP	Stages	Trim Size	Motor Bracket Size	Discharge Size	Order No.	Model No.	Shipping Wt. (lbs)
10	1	1C	6"	4" NPT	97080450001	450STS10D8C-0164	110
10	1	1C	6"	6" NPT	97080450101	450STS10D8C-0166	110
15	1	1B	6"	4" NPT	97080450201	450STS15D8B-0164	110
15	1	1B	6"	6" NPT	97080450301	450STS15D8B-0166	110
20	1	1A	6"	4" NPT	97080450401	450STS20D8A-0164	110
20	1	1A	6"	6" NPT	97080450501	450STS20D8A-0166	110
25	2	2B	6"	4" NPT	97080450002	450STS25D8B-0264	142
25	2	2B	6"	6" NPT	97080450102	450STS25D8B-0266	142
30	2	1A 1B	6"	4" NPT	97080450202	450STS30D8X-0264	142
30	2	1A 1B	6"	6" NPT	97080450302	450STS30D8X-0266	142
40	3	1A 2B	6"	4" NPT	97080450003	450STS40D8X-0364	175
40	3	1A 2B	6"	6" NPT	97080450103	450STS40D8X-0366	175
40	3	1A 2B	8"	4" NPT	97080450603	450STS40D8X-0384	199
40	3	1A 2B	8"	6" NPT	97080450703	450STS40D8X-0386	199
50	3	3A	6"	4" NPT	97080450203	450STS50D8A-0364	175
50	3	3A	6"	6" NPT	97080450303	450STS50D8A-0366	175
50	3	3A	8"	4" NPT	97080450803	450STS50D8A-0384	199
50	3	3A	8"	6" NPT	97080450903	450STS50D8A-0386	199
60	4	2A 2B	6"	4" NPT	97080450004	450STS60D8X-0464	208
60	4	2A,2B	6"	6" NPT	97080450104	450STS60D8X-0466	208
60	4	2A 2B	8"	4" NPT	97080450804	450STS60D8X-0484	232
60	4	2A 2B	8"	6" NPT	97080450904	450STS60D8X-0486	232
75	5	3A 1B 1C	8"	4" NPT	97080450805	450STS75D8X-0584	266
75	5	3A 1B 1C	8"	6" NPT	97080450905	450STS75D8X-0586	266
100	6	5A 1B	8"	4" NPT	97080450806	450STS100D8X-0684	295
100	6	5A 1B	8"	6" NPT	97080450906	450STS100D8X-0686	295
125	8	5A 3B	8"	4" NPT	97080450808	450STS125D8X-0884	357
125	8	5A 3B	8"	6" NPT	97080450908	450STS125D8X-0886	357

DIMENSIONS

HP	Stages	Trim	Motor Size	P	M	MD	Motor Wt. lbs	Pump Wt. lbs
				in	in	in		
10	1	1C	6"	24.7	25.4	5.44	103	94
15	1	1B	6"	24.7	28.0	5.44	114	94
20	1	1A	6"	24.7	30.6	5.44	126	94
25	2	2B	6"	31.1	33.1	5.44	140	124
30	2	1A 1B	6"	31.1	35.7	5.44	154	124
40	3	1A 2B	6"	37.5	40.8	5.44	182	154
40	3	1A 2B	8"	38.8	36.4	7.70	274	178
50	3	3A	6"	37.5	55.3	5.44	263	154
50	3	3A	8"	38.8	39.4	7.70	309	178
60	4	2A 2B	6"	43.8	61.3	5.44	291	184
60	4	2A 2B	8"	45.2	42.1	7.70	344	238
75	5	3A 1B 1C	8"	51.6	47.4	7.70	399	266
100	6	5A 1B	8"	58.0	54.9	7.70	481	295
125	8	5A 3B	8"	58.0	68.8	7.70	644	295

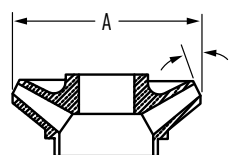
NOTE: MD diameter = Franklin Electric Motor, M = Maximum Length of Franklin Electric Motor



DIMENSIONS

IMPELLER

Trim	Diameter (in)	C Angle
A	5.720	20°
B	5.170	
C	4.835	



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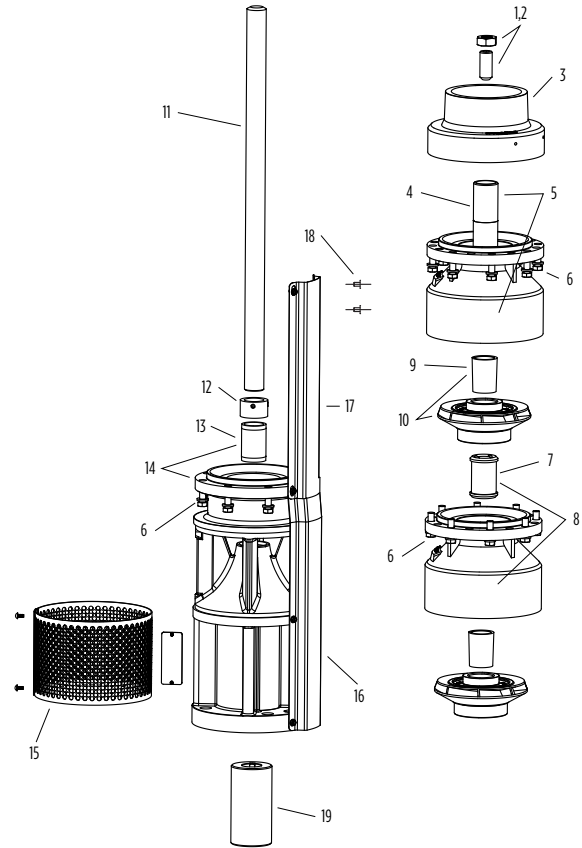
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REPAIR PARTS

Item No.	Part Description	Part No.	Qty. Per
1,2	Uphrust Bolt/Nut Kit	305471553	1
3	Discharge 4" NPT (No Top Bearing) (225-700)	305471976	1
	Discharge 6" NPT (No Top Bearing) (225-700)	305471977	
4	Top Bearing - Bronze (Included in 5)	305471990	As Req.
5	Top Bowl with Bronze Bearing	305471993	As Req.
	Top Bowl with Bronze Bearing XP	305471994	
6	Bowl Bolt Kit (8 pcs.)*	305471549	As Req.
	Bowl Bolt Kit (500 pcs.)	305471551	
7	8" Bowl Bearing - Rubber (Included in 8)	305471400	As Req.
	8" Bowl Bearing - Viton (Included in 8)	305471401	
	8" Bowl Bearing - Bronze (Included in 8)	305471379	
8	Bowl and Bearing Assembly - Bronze	305471534	As Req.
	Bowl and Bearing Assembly XP - Bronze	305471537	
	Bowl and Bearing Assembly - Rubber	305471533	
	Bowl and Bearing Assembly XP - Rubber	305471536	
	Bowl and Bearing Assembly - Viton	305471535	
9	Bowl and Bearing Assembly XP - Viton	305471538	As Req.
	Taper Lock Collet Kit (Included in 10)	305471371	
12	Sand Cap w/ Set Screws	305471373	1
13	Motor Bracket Bearing - Bronze (Included in 14)	305471379	1
	6" Motor Bracket with Bronze Bearing	305471440	
14	8" Motor Bracket with Bronze Bearing	305471437	As Req.
	Suction Screen with Screws for 6" Motor Bracket	305471375	
15	Suction Screen with Screws for 8" Motor Bracket	305471376	1
	Cable Guard Screw Kit	305471000	
18	8" x 6" Motor Coupling	305471403	1
	8" x 8" Motor Coupling	305471404	
Not Shown	6" Motor Bolt Kit	305352901	1
	8" Motor Bolt Kit	305352902	1
	Nameplate with Drive Screws	305418901	1
	Owner's Manual	106089101	1

* Pumps of 13 stages or more require double bolting; two bolt kits per stage will be required for the 13th stage and above



REPAIR PARTS

IMPELLER

Item No.	Description	Diameter (in)	Angle (Degrees)	Kit w/ Collet
10	A Trim	5.720	20 °	305471587
	B Trim	5.170		305471588
	C Trim	4.835		305471589

NOTE: Shaft and cable guard information located on the next page

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REPAIR PARTS

8" x 6" Shaft; 8" Pump with 6" Motor Bracket

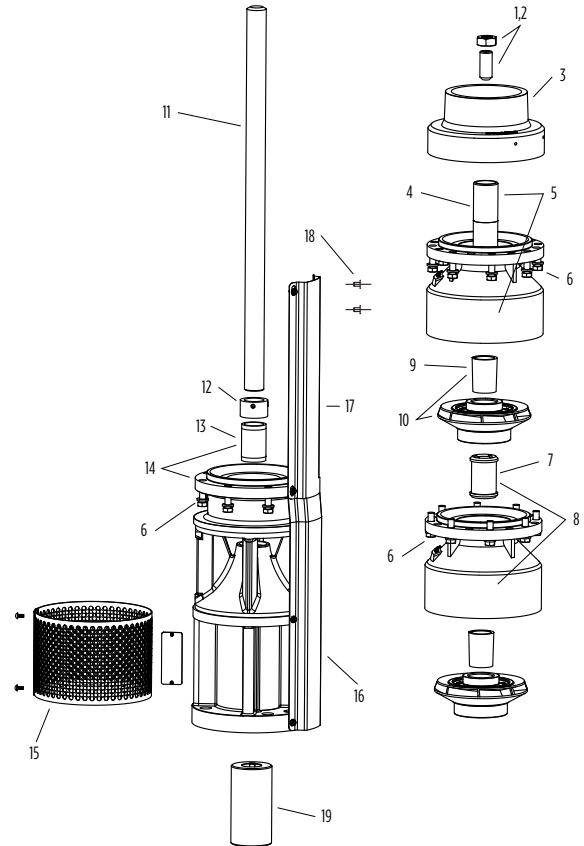
Item No.	Stages	Length (in)	Shaft Part No.	
			416 SS	Chrome Hardened
11	1	18.40	305472038	305472137
	2	24.78	305472040	305472139
	3	31.16	305472042	305472141
	4	37.53	305472044	305472143
	5	43.91	305472046	305472145
	6	50.29	305472048	305472147
	7	56.67	305472050	305472149
	8	63.05	305472052	305472151
	9	69.42	305472054	305472153
	10	75.80	305472056	305472155
	11	82.18	305472058	305472157
	12	88.56	305472060	305472159

8" x 6" Cable Guard (Pre-Cut); 8" Pump with 6" Motor Bracket

Item No.	Stages	Length (in)	Cable Guard Part No.	
			Bracket	Pump
16, 17	1	8.73	305471001	305471791
	2	15.17	305471001	305471794
	3	21.54	305471001	305471797
	4	27.92	305471001	305471800
	5	34.30	305471001	305471803
	6	40.68	305471001	305471852
	7	47.06	305471001	305471845
	8	53.43	305471001	305471850
	9	59.81	305471001	305471846
	10	66.19	305471001	305471851
	11	72.57	305471001	305471873
	12	78.95	305471001	305471875

8" x 8" Shaft; 8" Pump with 8" Motor Bracket

Item No.	Stages	Length (in)	Shaft Part No.	
			416 SS	Chrome Hardened
11	1	18.90	305472039	305472138
	2	25.28	305472041	305472140
	3	31.66	305472043	305472142
	4	38.04	305472045	305472144
	5	44.41	305472047	305472146
	6	50.79	305472049	305472148
	7	57.17	305472051	305472150
	8	63.55	305472053	305472152
	9	69.93	305472055	305472154
	10	76.30	305472057	305472156
	11	82.68	305472059	305472158
	12	89.06	305472061	305472160
	13	95.44	305472062	305472161
	14	101.82	305472063	305472162
	15	108.19	305472064	305472163
	16	114.57	305472065	305472164



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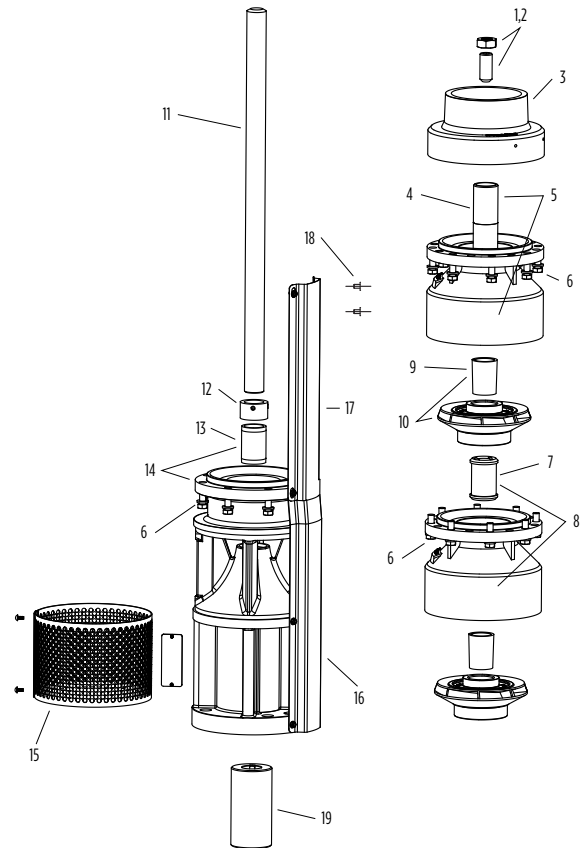
REPAIR PARTS

8" x 8" Cable Guard (Pre-cut); 8" Pump with 8" Motor Bracket			
Item No.	Stages	Length (in)	Part No.
17	1	23.23	305471865
	2	29.61	305471826
	3	35.98	305471828
	4	42.36	305471831
	5	48.74	305471834
	6	55.43	305471837
	7	61.50	305471809
	8	67.87	305471811
	9	74.25	305471814
	10	80.63	305471816
	11	87.01	305471818
	12	93.39	305471820
	13	99.77	305471848
	14	106.14	305471847
	15	112.52	305471879
	16	118.90	305471880

8" Cable Guard			
Item No.	Description	Length (in)	Part No.
17	Cable Guard (10' Section)	120	305471789
16	Cable Guard 6" Motor Bracket Section*	14.125	305471001

*Must have for 6" motor bracket

8" 416 SS Shaft (Double Keyed)	
Part No.	Length (ft)
305471367	4
305471368	6
305471369	8
305471370	10



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MATERIALS

Part Name	Common Material Name	Material Specification No.
Discharge Bracket	Ductile Iron	ASTM A536 65-45-12
Top Bowl	Ductile Iron	ASTM A536 65-45-12
Intermediate Bowl	Ductile Iron	ASTM A536 65-45-12
Bearings, Disch. & Suction	Bronze	ASTM 8584 C89835
Impeller	304 Stainless Steel	ASTM A743/A743M CF8
Pump Shaft	416 Stainless Steel	ASTM A582 S41600
Suction Bracket	Ductile Iron	ASTM A536 65-45-12
Bowl Bearing	Rubber	Rubber
Sand Collar	300 Stainless Steel	ASTM A666
Suction Screen	302 Stainless Steel	ASTM A240 S30200
Cable Guard	300 Stainless Steel	ASTM A666
Shaft Coupling	416 Stainless Steel	ASTM A582 S41600
Upthrust Bolt	300 Stainless Steel	ASTM A666
Taper Lock	416 Stainless Steel	ASTM A582 S41600
Bolting	300 Stainless Steel	ASTM A666

NOTE: Bowl bearing and shaft options available; contact customer service for available options

NOTES

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