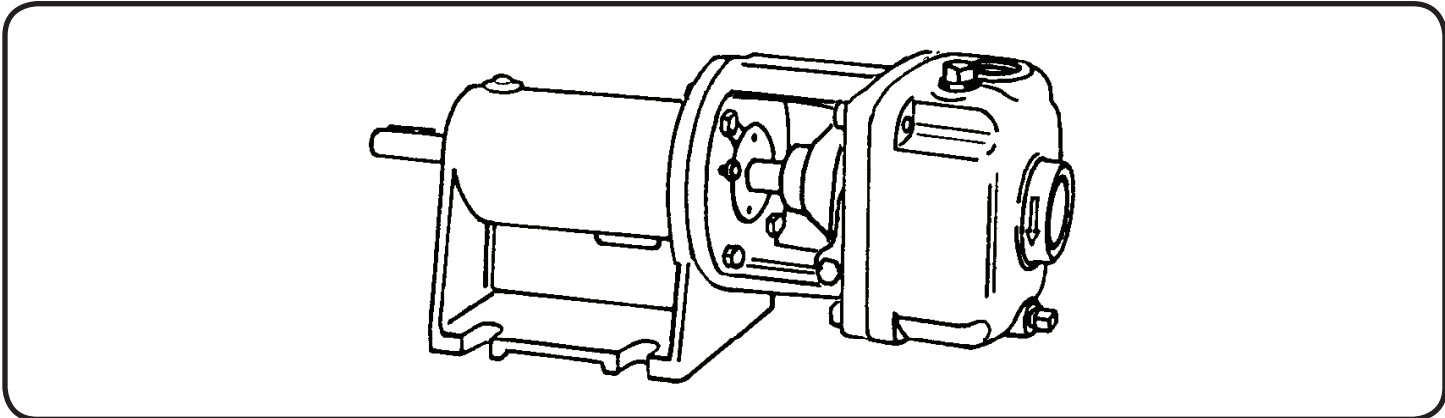
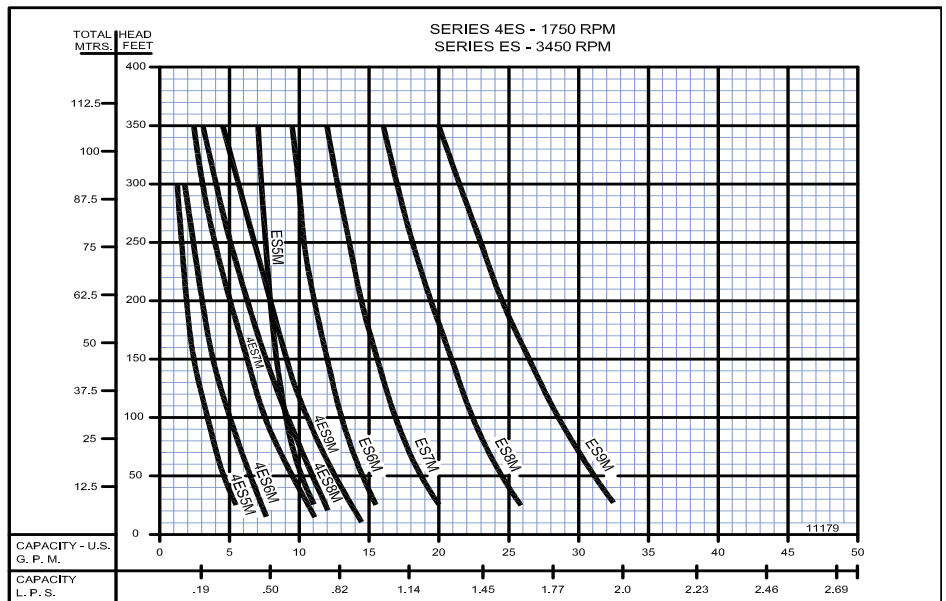


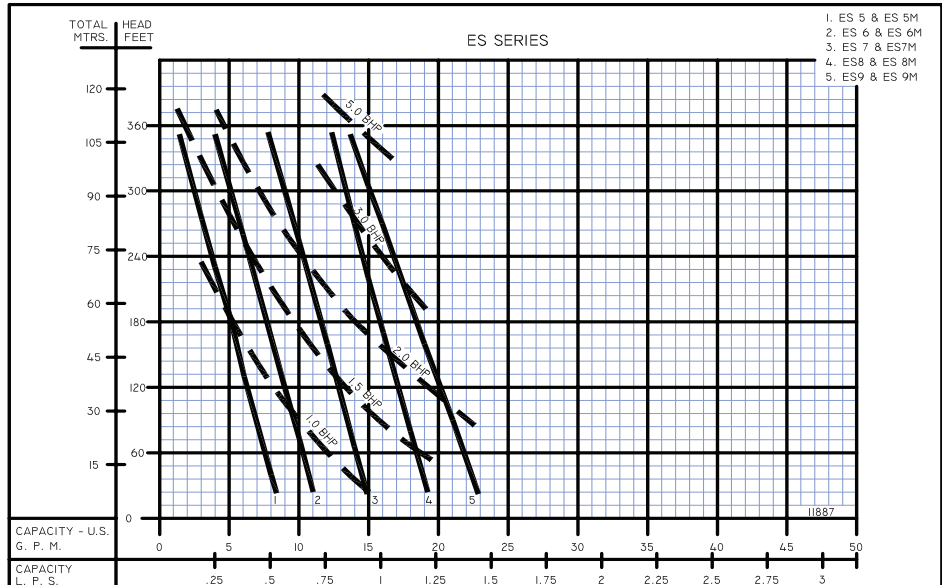
### Frame Mounted Regenerative Turbine



**4ES - 1725 RPM - 60Hz.**  
**ES - 3450 RPM - 60Hz.**  
 (See Individual curves for symbol number)



**ES - 2900 RPM - 50Hz.**  
 (See Individual curves for symbol number)



Individual performance curves should be checked for final selection.

**Frame Mounted Regenerative Turbine**

1750 RPM

60Hz - PERFORMANCE AND SELECTION CHART															
Capacity in GPM (LPS) at Total Head in Feet (m) or Pressure Shown															
Catalog Number	PSI (kpa)	8.6 (59)	17.2 (118)	26 (179)	43.3 (298)	54.1 (373)	64.9 (447)	75.8 (522)	86.6 (597)	97.4 (671)	108.3 (746)	119.1 (821)	130 (896)	140.1 (965)	151.8 (1045)
	Feet (m)	20 (6)	40 (12)	60 (18)	100 (30)	125 (38)	150 (45)	175 (53)	200 (60)	225 (68)	250 (76)	275 (83)	300 (91)	325 (99)	350 (106)
ES5M	GPM (LPS) BHP	5.6 (.35) .10	4.9 (.30) .12	4.2 (.26) .15	3.2 (.20) .22	2.8 (.17) .28	2.4 (.15) .35	2.1 (.13) .41	1.8 (.11) .48	1.6 (.10) .52	1.4 (.08) .59	1.2 (.07) .65	1.0 (.06) .69		
	Motor Size	1/4 HP			1/3 HP		1/2 HP			3/4 HP					
ES6M	GPM (LPS) BHP	7.7 (.48) .15	6.9 (.43) .20	6.2 (.39) .25	5.0 (.31) .35	4.4 (.27) .42	3.9 (.24) .48	3.6 (.22) .52	3.2 (.20) .58	2.9 (.18) .62	2.6 (.16) .65	2.4 (.15) .70	2.1 (.13) .78		
	Motor Size	1/4 HP			1/2 HP			3/4 HP			1 HP				
ES7M	GPM (LPS) BHP	10.5 (.66) .20	9.4 (.59) .28	8.6 (.54) .32	7.2 (.45) .48	6.5 (.41) .55	5.9 (.37) .64	5.4 (.34) .75	4.8 (.30) .85	4.4 (.27) .92	4.0 (.25) 1.10	3.5 (.22) 1.20	3.1 (.19) 1.35	2.7 (.17) 1.50	2.3 (.14) 1.70
	Motor Size	1/4 HP	1/3 HP		1/2 HP	3/4 HP			1 HP		1 1/4 HP		1 1/2 HP		2 HP
ES8M	GPM (LPS) BHP	12.1 (.76) .35	11.2 (.70) .42	10.3 (.64) .50	8.9 (.56) .65	8.2 (.51) .75	7.5 (.47) .85	6.8 (.42) .95	6.2 (.39) 1.10	5.6 (.35) 1.20	5.0 (.31) 1.35	4.5 (.28) 1.5	4.0 (.25) 1.6	3.6 (.22) 1.75	3.1 (.19) 1.95
	Motor Size	1/2 HP			3/4 HP		1 HP		1 1/2 HP				2 HP		
ES9M	GPM (LPS) BHP	14.5 (.91) .40	13.1 (.82) .52	12.1 (.76) .61	10.4 (.65) .80	9.6 (.60) .90	8.8 (.55) 1.05	8.2 (.51) 1.15	7.5 (.47) 1.30	6.9 (.43) 1.42	6.3 (.39) 1.60	5.7 (.35) 1.75	5.2 (.32) 1.90	4.8 (.30) 2.10	4.2 (.26) 2.35
	Motor Size	1/2 HP	3/4 HP		1 HP		1 1/2 HP				2 HP		3 HP		

3450 RPM

60Hz - PERFORMANCE AND SELECTION CHART															
Capacity in GPM (LPS) at Total Head in Feet (m) or Pressure Shown															
Catalog Number	PSI (kpa)	8.6 (59)	17.2 (118)	26 (179)	43.3 (298)	54.1 (373)	64.9 (447)	75.8 (522)	86.6 (597)	97.4 (671)	108.3 (746)	119.1 (821)	130 (896)	140.1 (965)	151.8 (1045)
	Feet (m)	20 (6)	40 (12)	60 (18)	100 (30)	125 (38)	150 (45)	175 (53)	200 (60)	225 (68)	250 (76)	275 (83)	300 (91)	325 (99)	350 (106)
ES5M	GPM (LPS) BHP	10.8 (.68) .60	10.4 (.65) .65	10.0 (.63) .70	9.2 (.58) .80	8.8 (.55) .91	8.6 (.54) .98	8.3 (.52) 1.10	8.0 (.50) 1.20	7.8 (.49) 1.30	7.6 (.47) 1.4	7.4 (.46) 1.52	7.2 (.45) 1.75	7.1 (.44) 1.85	7.0 (.44) 2.00
	Motor Size	3/4 HP			1 HP			1 1/2 HP			2 HP				
ES6M	GPM (LPS) BHP	15.6 (.98) .85	15.2 (.95) .90	14.6 (.92) 1.00	13.5 (.85) 1.20	12.9 (.81) 1.35	12.4 (.78) 1.45	11.9 (.75) 1.60	11.6 (.73) 1.70	11.2 (.70) 1.85	10.8 (.68) 1.95	10.4 (.65) 2.10	10.1 (.63) 2.20	9.8 (.61) 2.30	9.5 (.59) 2.50
	Motor Size	1 HP			1 1/2 HP			2 HP			3 HP				
ES7M	GPM (LPS) BHP	20.0 (1.26) 1.30	19.6 (1.23) 1.38	18.7 (1.17) 1.55	17.3 (1.09) 1.80	16.6 (1.04) 1.95	15.9 (1.00) 2.12	15.3 (.96) 2.28	14.8 (.93) 2.45	14.3 (.90) 2.60	13.8 (.87) 2.80	13.3 (.83) 2.95	12.8 (.80) 3.15	12.5 (.78) 3.25	12.1 (.75) 3.5
	Motor Size	1 1/2 HP		2 HP			3 HP			5 HP					
ES8M	GPM (LPS) BHP	26.2 (1.65) 1.60	25.6 (1.61) 1.70	24.5 (1.54) 1.80	22.9 (1.44) 2.20	22.0 (1.38) 2.40	21.2 (1.33) 2.60	20.5 (1.29) 2.80	19.8 (1.24) 3.00	19.2 (1.21) 3.30	18.5 (1.16) 3.60	18.0 (1.13) 3.80	17.4 (1.09) 4.10	16.9 (1.06) 4.40	16.4 (1.03) 4.90
	Motor Size	2 HP			3 HP			5 HP							
ES9M	GPM (LPS) BHP	32.0 (2.01) 2.00	31.5 (1.98) 2.10	30.5 (1.92) 2.30	28.6 (1.61) 2.70	27.5 (1.73) 3.00	26.5 (1.67) 3.20	25.6 (1.61) 3.50	24.7 (1.55) 3.70	23.9 (1.50) 3.90	23.0 (1.45) 4.20	22.2 (1.40) 4.40	21.5 (1.35) 4.60	20.7 (1.30) 4.90	20.0 (1.26) 5.10
	Motor Size	2 HP	3 HP			5 HP						7 1/2 HP			

NOTE: When pumping hot water over 180°F (82.2°C), check the NPSH available in the pumping system against the required pump NPSH shown on pump performance curves. Available NPSH must be greater than required NPSH.

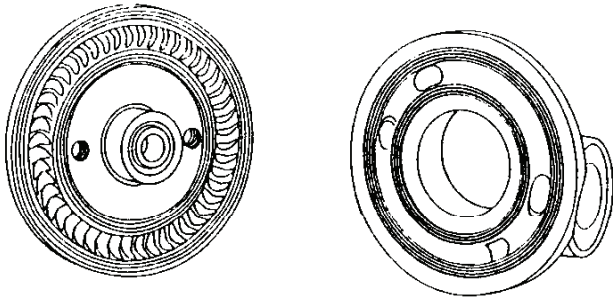
## Frame Mounted Regenerative Turbine

50Hz - PERFORMANCE AND SELECTION CHART															
Capacity in GPM (LPS) at Total Head in Feet (m) or Pressure Shown															
Catalog Number	PSI (kpa)	13 (89)	17.2 (118)	26 (179)	43.3 (298)	54.1 (373)	64.9 (447)	75.8 (522)	86.6 (597)	97.4 (671)	108.3 (746)	119.1 (821)	130 (896)	140.1 (965)	151.8 (1045)
	Feet (m)	30 (9)	40 (12)	60 (18)	100 (30)	125 (38)	150 (45)	175 (53)	200 (60)	225 (68)	250 (76)	275 (83)	300 (91)	325 (99)	350 (106)
ES5M	GPM (LPS) BHP	8.2 (.51) .990	8.0 (.50) .991	7.5 (.47) .994	6.6 (.41) .996	6.0 (.37) .998	5.6 (.35) 1.00	5.2 (.32) 1.05	4.8 (.30) 1.11	4.0 (.25) 1.23	3.5 (.22) 1.33	3.0 (.18) 1.43	2.5 (.15) 1.51		
	Motor Size	1 HP						1½ HP							
ES6M	GPM (LPS) BHP	11.0 (.69) .990	10.5 (.66) .993	10.3 (.64) .996	9.2 (.58) 1.06	9.0 (.56) 1.09	8.3 (.52) 1.14	7.8 (.49) 1.15	7.3 (.46) 1.24	6.8 (.42) 1.34	6.2 (.39) 1.49	5.5 (.34) 1.68	5.0 (.31) 1.77	4.5 (.28) 1.87	4.0 (.25) 1.98
	Motor Size	1 HP			1½ HP					2 HP					
ES7M	GPM (LPS) BHP	15.0 (.94) .94	14.5 (.91) 1.05	14.0 (.88) 1.13	13.2 (.83) 1.33	12.8 (.80) 1.42	12.2 (.76) 1.55	11.7 (.73) 1.63	11.2 (.70) 1.75	10.5 (.66) 1.89	10.0 (.63) 2.0	9.5 (.59) 2.28	9.0 (.56) 2.5	8.3 (.52) 2.83	8.0 (.50) 2.94
	Motor Size	1 HP	1½ HP			2 HP				3 HP					
ES8M	GPM (LPS) BHP	19.2 (1.21) 1.27	19.0 (1.19) 1.38	18.4 (1.16) 1.55	17.5 (1.10) 1.80	17.0 (1.07) 1.90	16.5 (1.04) 2.02	16.0 (1.00) 2.07	15.3 (.96) 2.21	15.0 (.94) 2.27	14.5 (.91) 2.52	14.0 (.88) 2.74	13.3 (.83) 3.19	13.0 (.82) 3.39	12.2 (.76) 3.95
	Motor Size	1½ HP		2 HP			3 HP					5 HP			
ES9M	GPM (LPS) BHP	22.5 (1.41) 1.5	22.3 (1.40) 1.55	22.0 (1.38) 1.63	20.5 (1.29) 2.09	20.0 (1.26) 2.18	19.3 (1.21) 2.35	18.5 (1.16) 2.50	18.0 (1.13) 2.61	17.3 (1.09) 2.65	17.8 (1.12) 2.83	16.0 (1.00) 3.41	15.0 (.94) 3.98	14.5 (.91) 4.17	13.7 (.86) 4.42
	Motor Size	1½ HP	2 HP		3 HP					5 HP					



**NOTE:** When pumping hot water over 180°F (82.2°C), check the NPSH available in the pumping system against the required pump NPSH shown on pump performance curves. Available NPSH must be greater than required NPSH.

**Frame Mounted Regenerative Turbine**



BURKS exclusive, unique regenerative type turbine pumps are designed to handle clear water and many other non-abrasive, lower viscosity liquids on high pressure, low capacity applications with the greatest possible efficiency. BURKS is the only turbine pump with Life-Lok<sup>®</sup> External Impeller Adjustment feature that allows readjustment of impeller without disturbing piping, disassembling pump or replacing parts. Gives up to 40% longer service life than turbine pumps of other designs. Coupling guard furnished on all complete Base-Mounted units manufactured by Burks Pumps. Not furnished with purchase of pump only, but required.

**QUALITY FEATURES:**

- Self-Priming
- Compact, space-saving size
- Dependable carbon/ceramic mechanical shaft seal for temperatures to 225°F (107°C).
- Bronze impeller with Monel blades - the only moving part
- Bronze raceway with cast-in vortex pockets - will not vapor lock
- #303 Stainless Steel pump shaft
- Easy to service
- Every pump factory tested
- Available Bronze fitted, all Bronze, Stainless Steel

MAXIMUM OPERATING CONDITIONS	
TEMPERATURE (For Standard Buna-N Seal)	225°F (107°C)
INLET PRESSURE	100 PSI (689kPa)
CASING WORKING PRESSURE	250 PSI (1723kPa)

**FOR TEMPERATURES TO 500°F (260°C)**

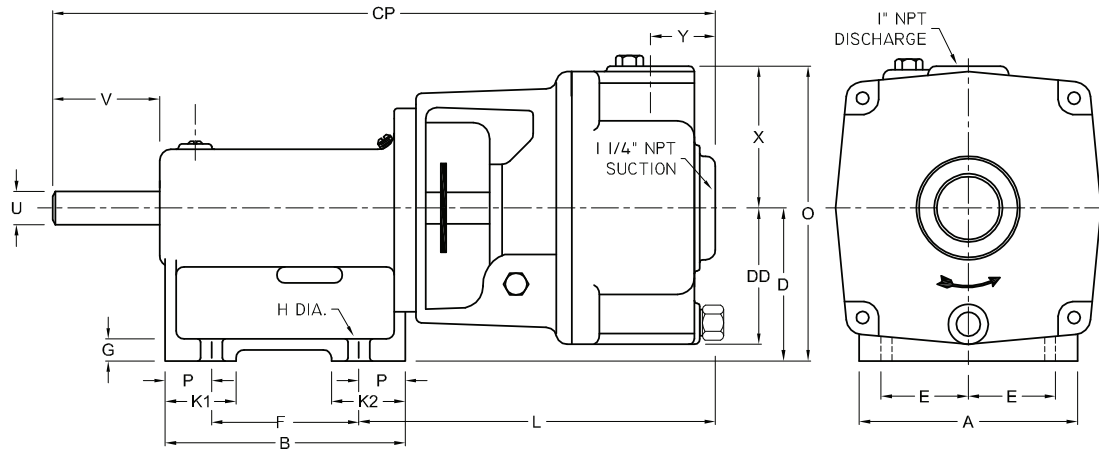
Series ES Pumps are available in a Jacketed Seal Cavity design for pumping hot oil, hot water and heat transfer fluids in common use in high temperature heating or cooling applications. This feature greatly extends seal life in high temperature applications. To order, add suffix "J" to pump catalog number for temperatures below 400°F (204°C) and add suffix "JK" to pump catalog number for temperatures over 400°F (204°C). *Example: ES6MJ.* See Section on High Temperature Pumps for more information.

MATERIALS OF CONSTRUCTION			
PART	BRONZE FITTED	ALL BRONZE	STAINLESS STEEL
Bearing Housing	Cast Iron	Cast Iron	Cast Iron
Adapter	Cast Iron	Bronze	#316 Stainless
Case	Cast Iron	Bronze	#316 Stainless
Raceway	Bronze	Bronze	#303 Stainless
Impeller	Bronze (Monel Blades)	Bronze (Monel Blades)	#303 Stainless
Shaft	#303 Stainless	#303 Stainless	#303 Stainless
Shaft Seal	Carbon-Ceramic SS - Buna-N	Carbon-Ceramic SS - Buna-N	Carbon-Ceramic SS - Buna-N

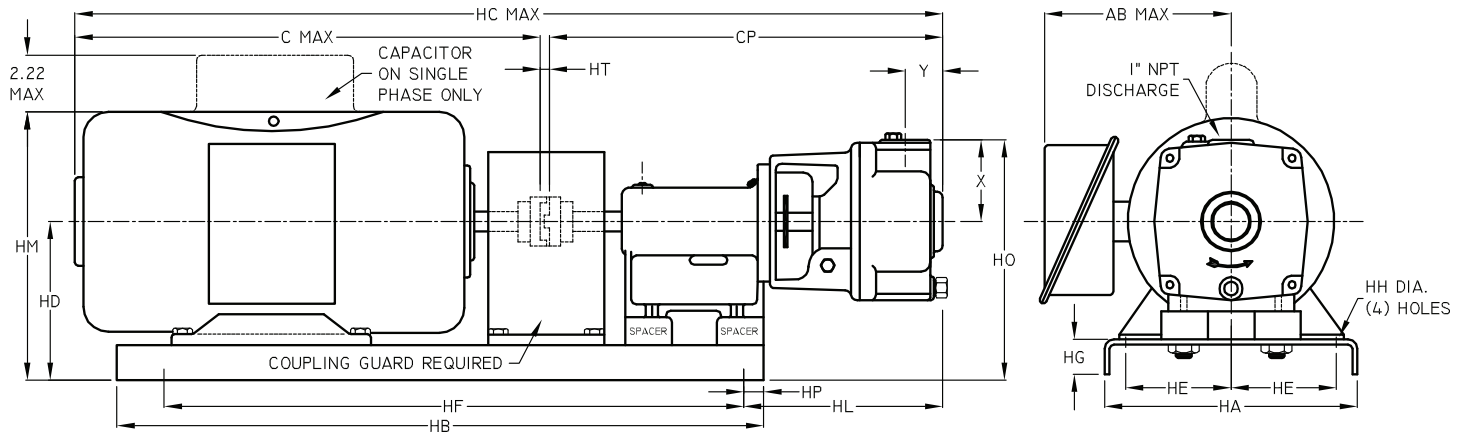


**WARNING:**  
CANCER AND REPRODUCTIVE HARM -  
WWW.P65WARNINGS.CA.GOV

### Frame Mounted Regenerative Turbine



DIMENSIONS IN INCHES (mm)																					
A	B	CP	CP (S.S.)	D	DD	E	F	G	H	K1	K2	L	L (S.S.)	O	P	S	U	V	X	Y	Y (S.S.)
5	5½	15½	15¾	3½	3¾	2	3¾	½	½	1¾	1⅛	8¾	8⅜	6¾	1⅛	1⅜	¾	2¼	3¼	1⅛	1⅛
(126)	(139)	(384)	(397)	(88)	(79)	(50)	(85)	(13)	(13)	(41)	(42)	(212)	(224)	(171)	(27)	(30)	(19)	(57)	(82)	(42)	(42)

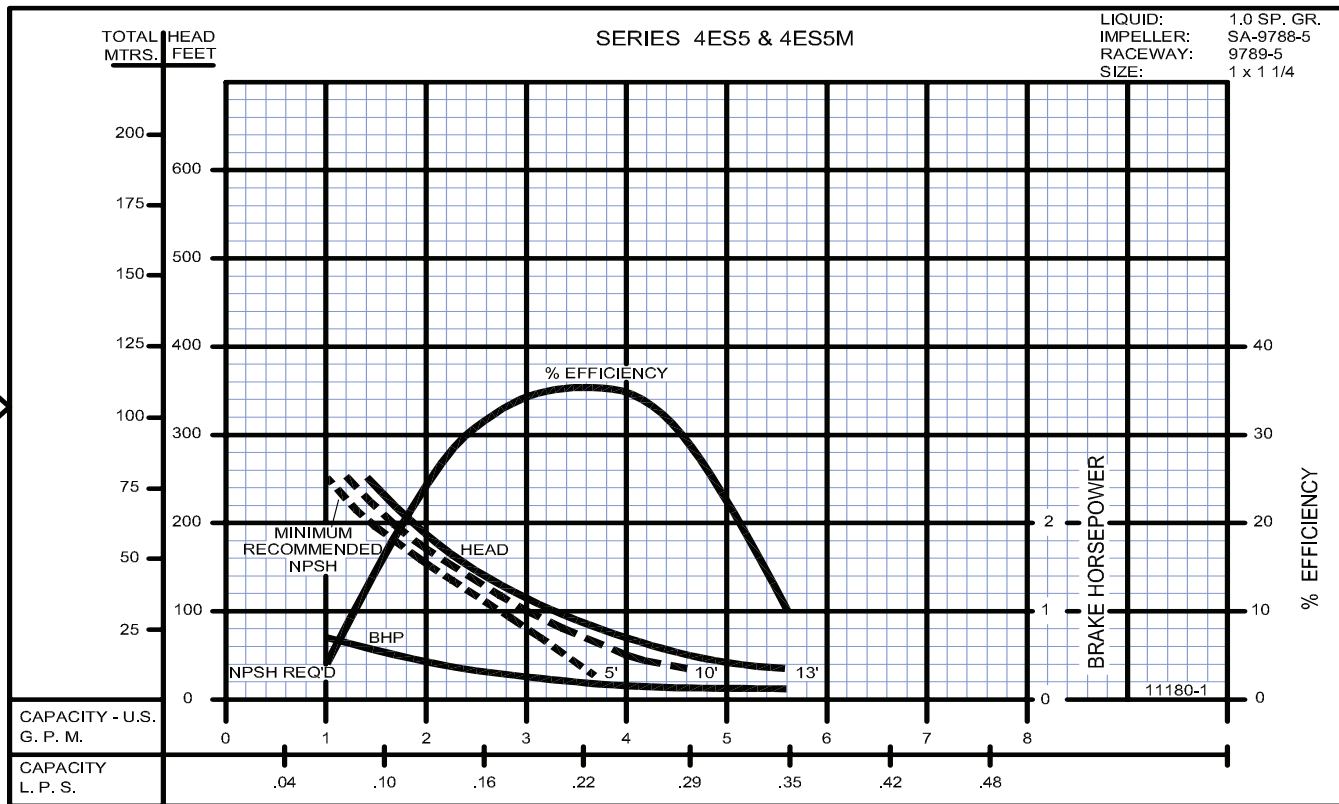


DIMENSIONS IN INCHES (mm)																						
Motor Frame	AB	C	CP	CP (S.S.)	HA	HB	HC	HC (S.S.)	HD	HE	HF	HG	HH	HL	HL (S.S.)	HM	HO	HP	HT	X	Y	Y (S.S.)
56	---	12½	15¾	15¾	8	22	28¾	28¾	6	3	20	2½	1⅛	8⅜	8⅜	9¾	9¼	1	9/16	3¼	1⅛	1⅛
		(318)	(384)	(397)	(203)	(558)	(715)	(727)	(152)	(76)	(508)	(63)	(17)	(211)	(224)	(233)	(234)	(25)	(14)	(82)	(42)	(42)
143T	6⅜	10⅛	15¾	15¾	8	22	26¾	26⅜	6	3	20	2½	1⅛	8⅜	8⅜	9½	9¼	1	9/16	3¼	1⅛	1⅛
	(157)	(271)	(384)	(397)	(203)	(558)	(669)	(681)	(152)	(76)	(508)	(63)	(17)	(211)	(224)	(241)	(234)	(25)	(14)	(82)	(42)	(42)
145T	6⅜	11⅛	15¾	15¾	8	22	27¾	27⅜	6	3	20	2½	1⅛	8⅜	8⅜	9½	9¼	1	9/16	3¼	1⅛	1⅛
	(157)	(271)	(384)	(397)	(203)	(558)	(695)	(706)	(152)	(76)	(508)	(63)	(17)	(211)	(224)	(241)	(234)	(25)	(14)	(82)	(42)	(42)
182T	8¼	12¾	15¾	15¾	10	25	28⅛	29¾	7	4	23	2½	1⅛	8⅜	8⅜	11½	10¼	1	13/16	3¼	1⅛	1⅛
	(209)	(323)	(384)	(397)	(254)	(635)	(728)	(740)	(177)	(101)	(584)	(63)	(17)	(211)	(224)	(292)	(260)	(25)	(20)	(82)	(42)	(42)
184T	8¼	13¼	15¾	15¾	10	25	29⅛	30¾	7	4	23	2½	1⅛	8⅜	8⅜	11½	10¼	1	13/16	3¼	1⅛	1⅛
	(209)	(349)	(384)	(397)	(254)	(635)	(754)	(765)	(177)	(101)	(584)	(63)	(17)	(211)	(224)	(292)	(260)	(25)	(20)	(82)	(42)	(42)
213T	8¼	15¼	15¾	15¾	11	28¾	31⅛	32¾	7¾	4½	26¾	2½	1⅛	8⅜	8⅜	13⅜	11	1	13/16	3¼	1⅛	1⅛
	(209)	(400)	(384)	(397)	(279)	(730)	(804)	(790)	(196)	(114)	(679)	(63)	(17)	(211)	(224)	(331)	(279)	(25)	(20)	(82)	(42)	(42)
215T	8¼	17¼	15¾	15¾	11	28¾	33⅜	33¾	7¾	4½	26¾	2½	1⅛	8⅜	8⅜	13⅜	11	1	13/16	3¼	1⅛	1⅛
	(209)	(438)	(384)	(397)	(279)	(730)	(842)	(854)	(196)	(114)	(679)	(63)	(17)	(211)	(224)	(331)	(279)	(25)	(20)	(82)	(42)	(42)

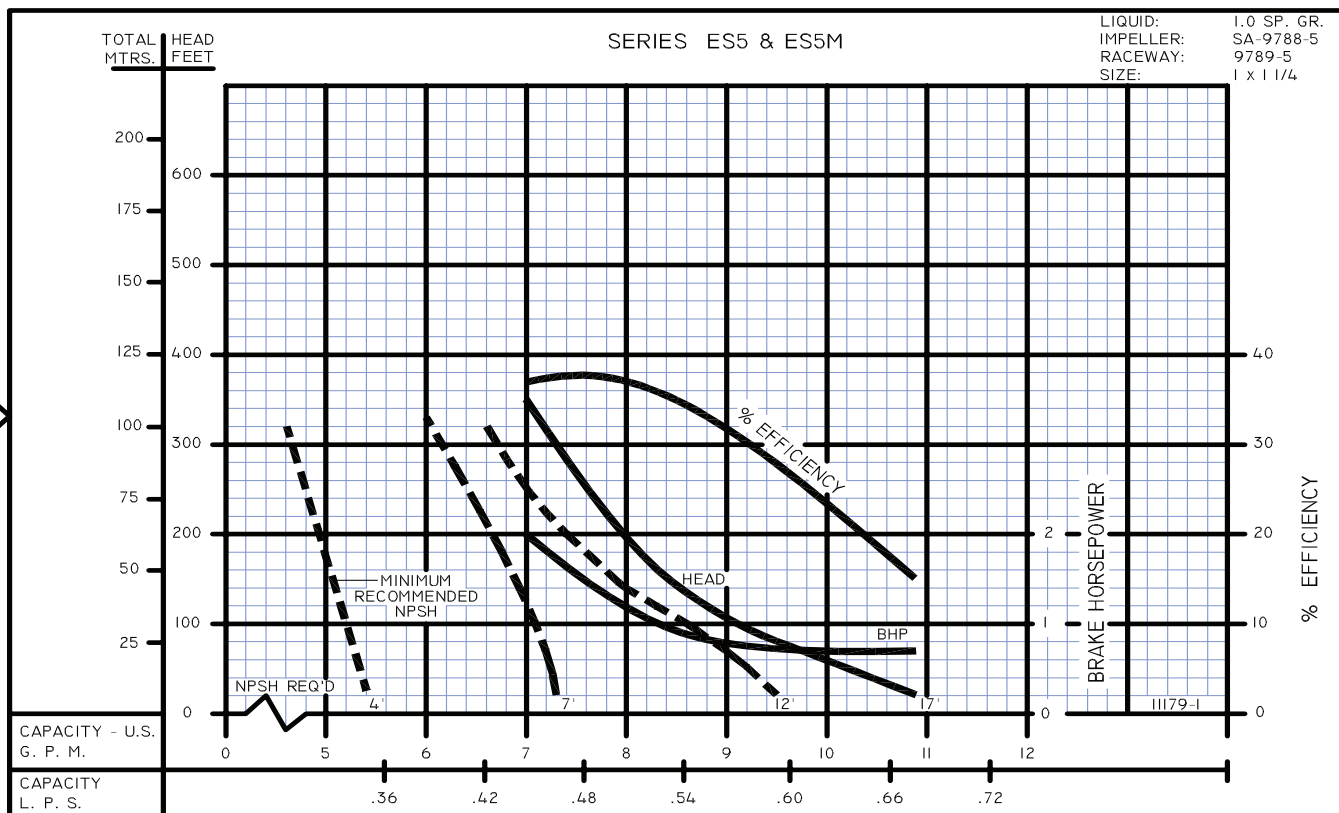
**A strainer, approximately 20 mesh, should be installed on the suction side of the pump to prevent chips, scale or hard foreign particales from entering the pump and damaging the raceway and impeller.**

**Frame Mounted Regenerative Turbine**

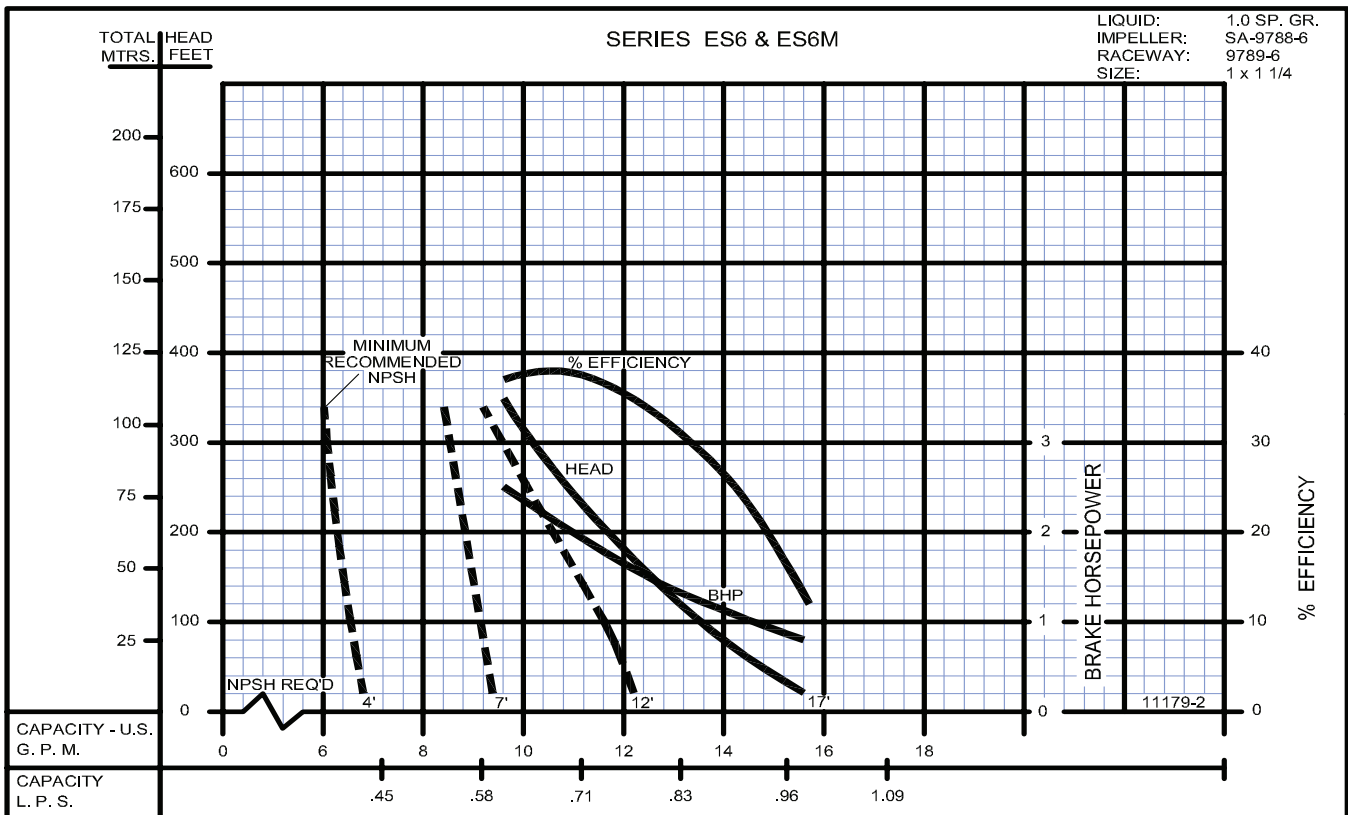
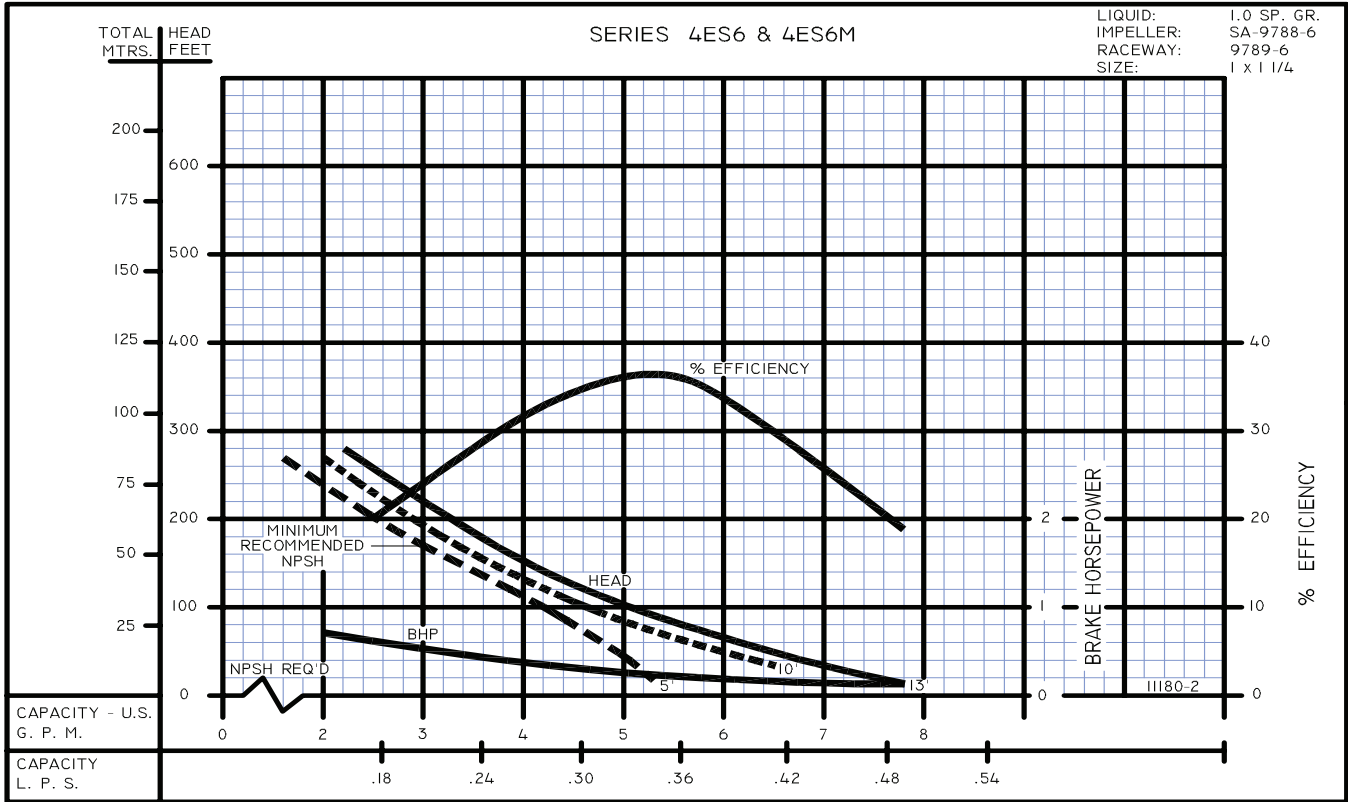
1725 RPM



3450 RPM



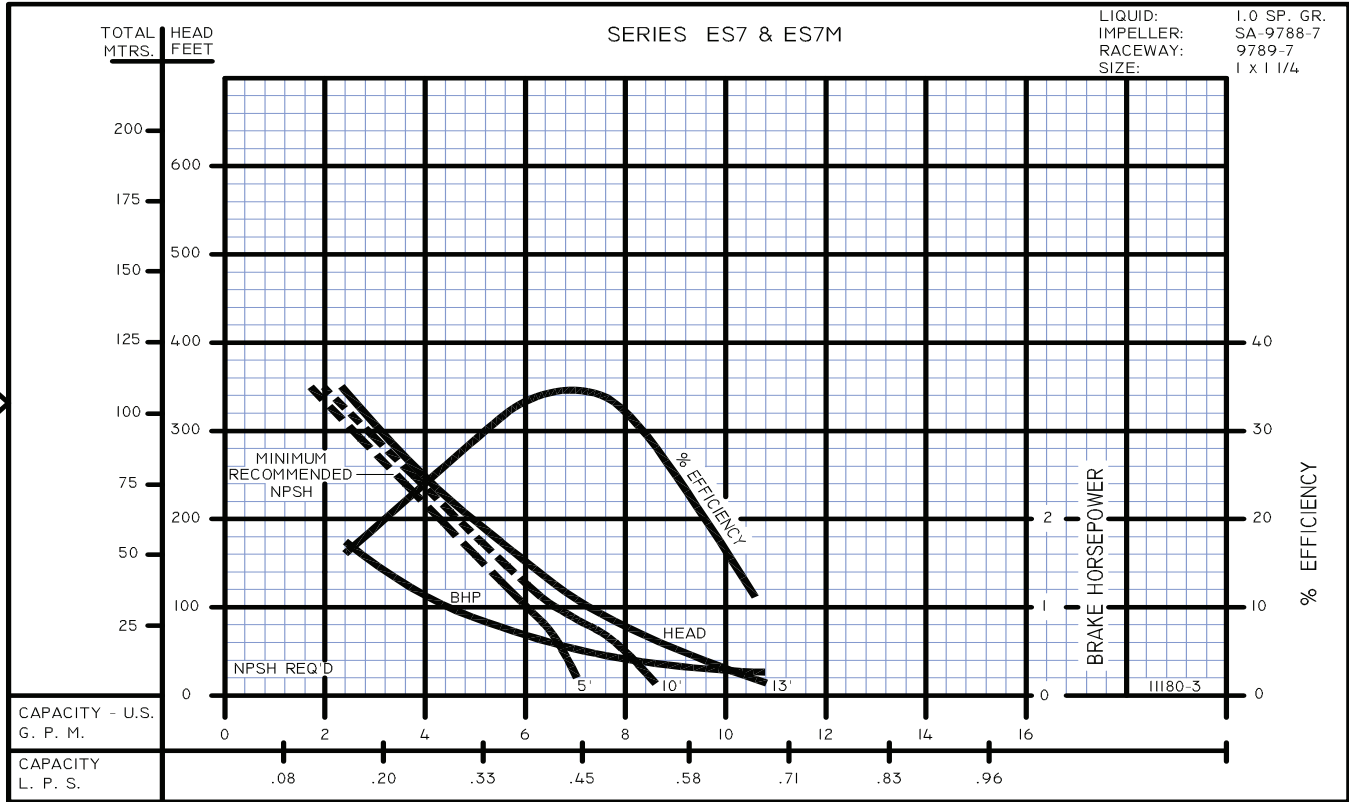
**Frame Mounted Regenerative Turbine**



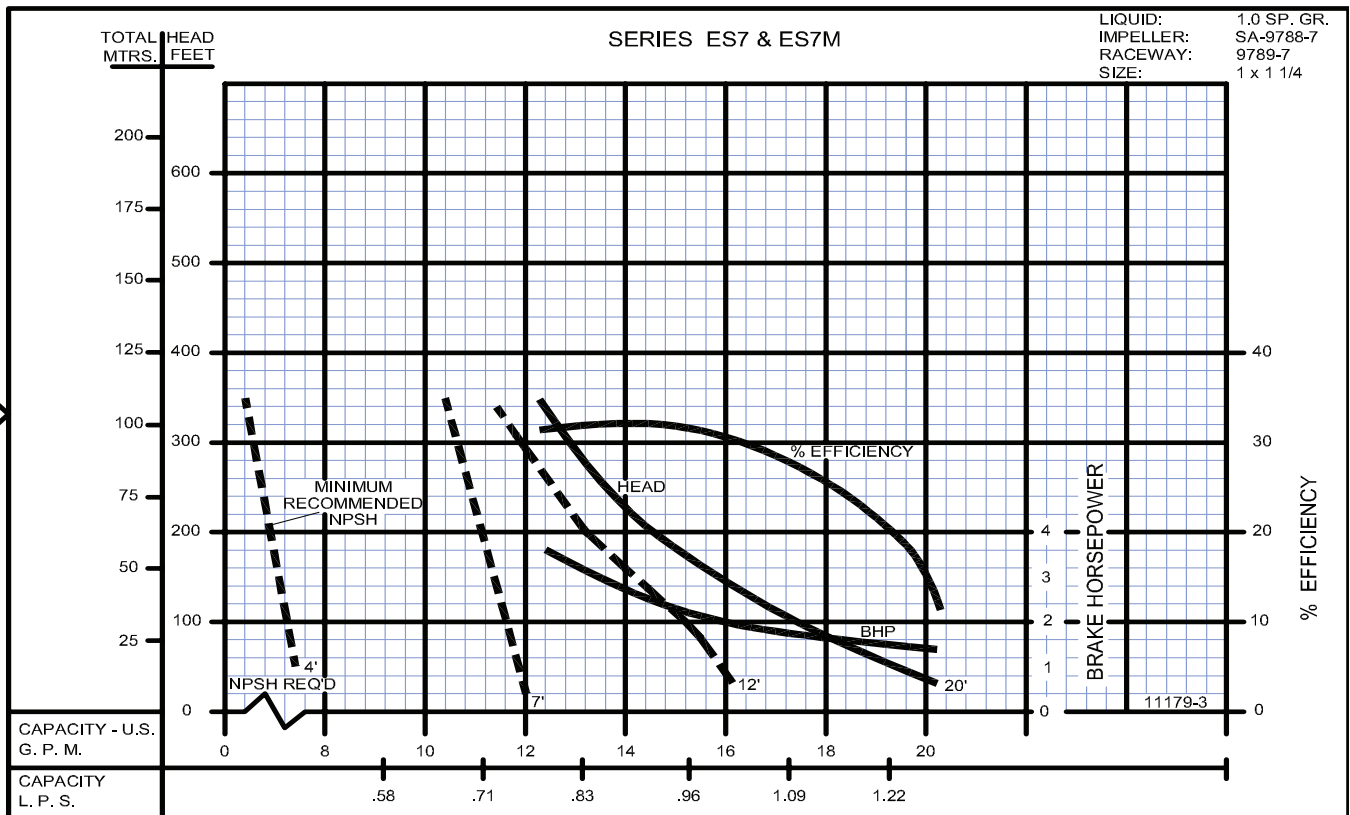


**Frame Mounted Regenerative Turbine**

1725  
RPM



3450  
RPM



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**CRANE**<sup>®</sup>

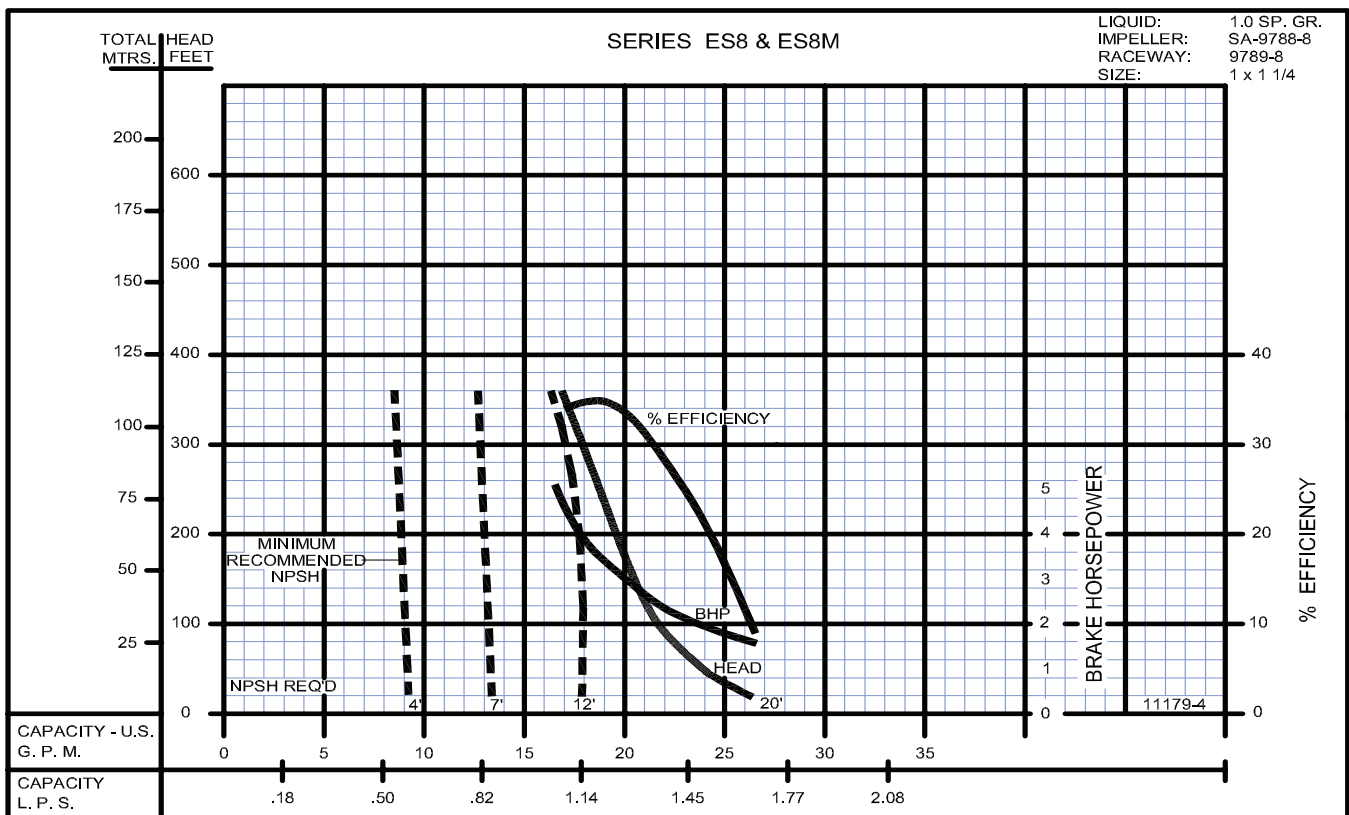
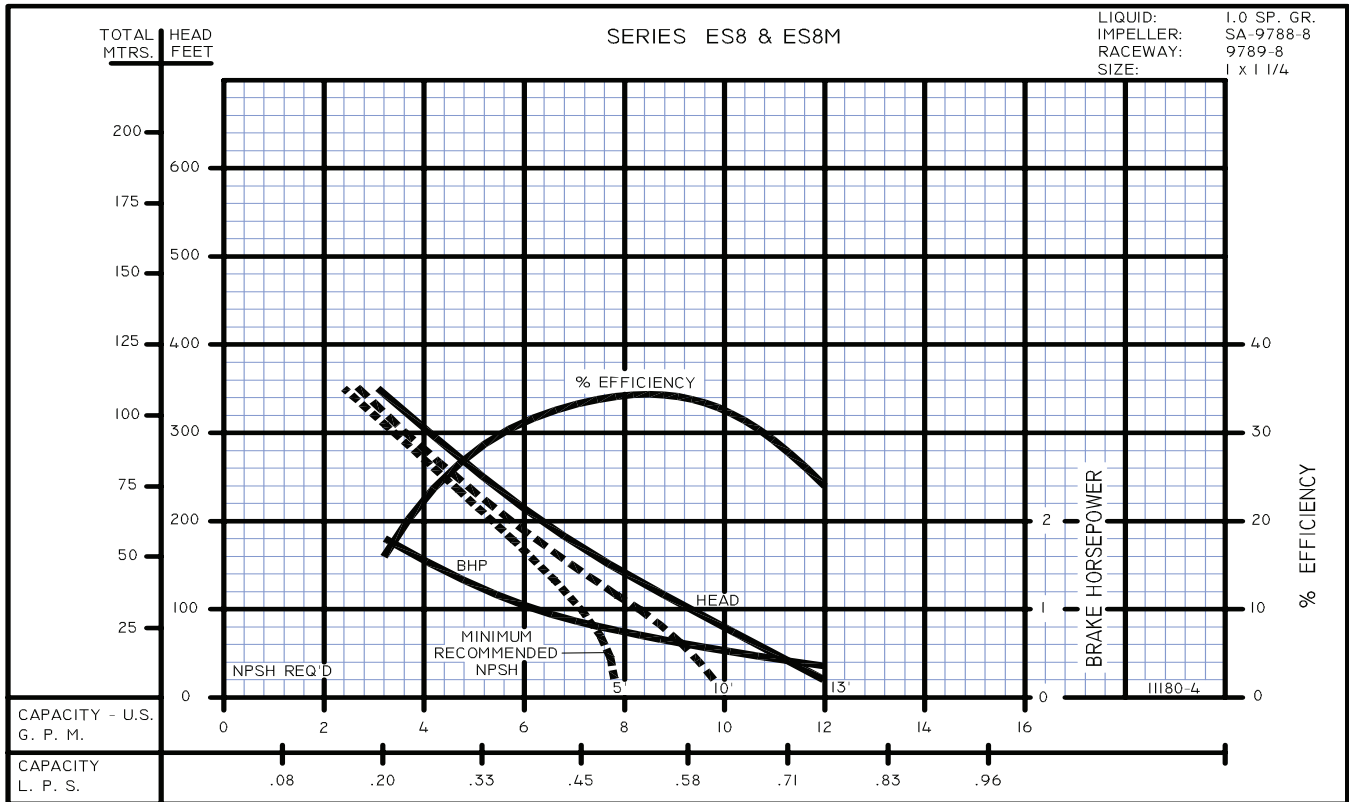
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### Frame Mounted Regenerative Turbine



# Series: ES

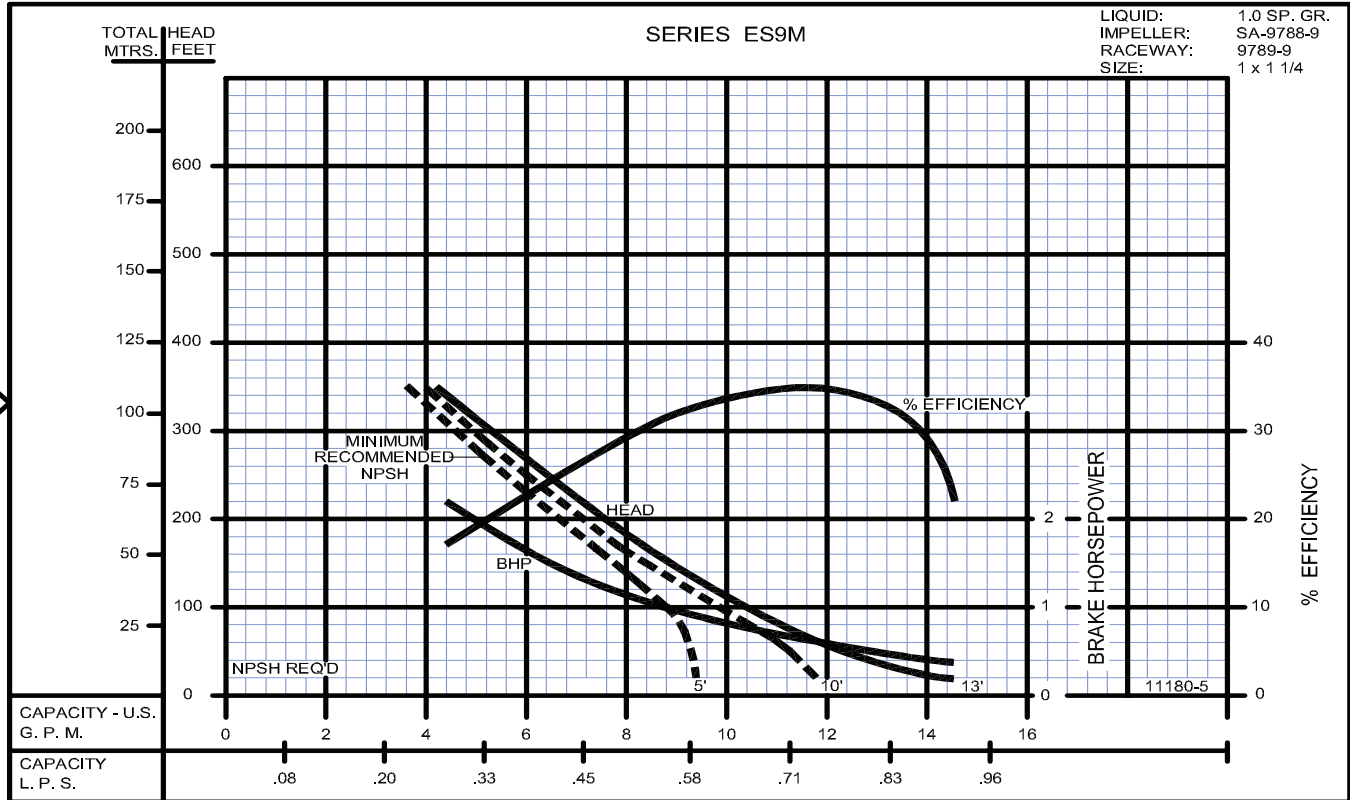
60 Hz. Performance



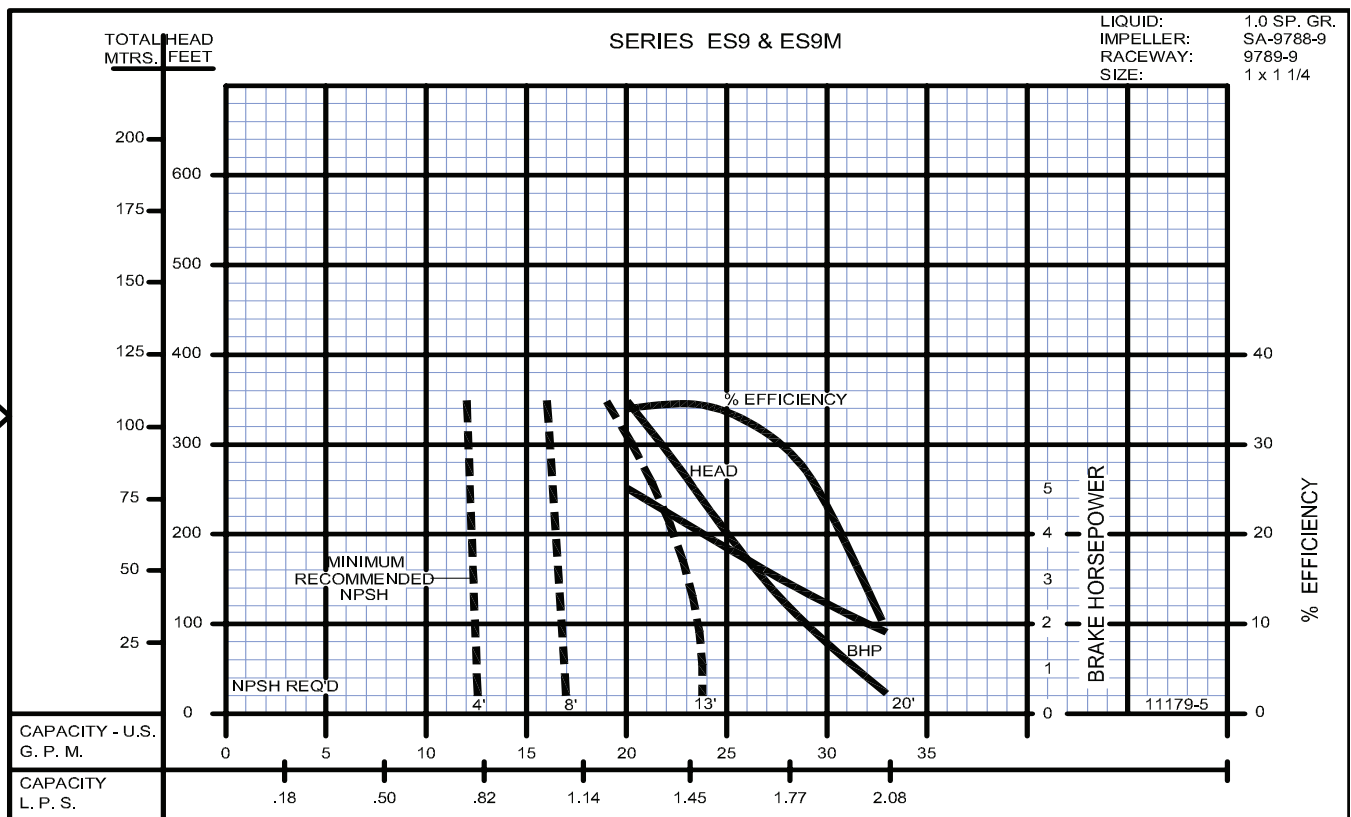
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## Frame Mounted Regenerative Turbine

1725 RPM



3450 RPM



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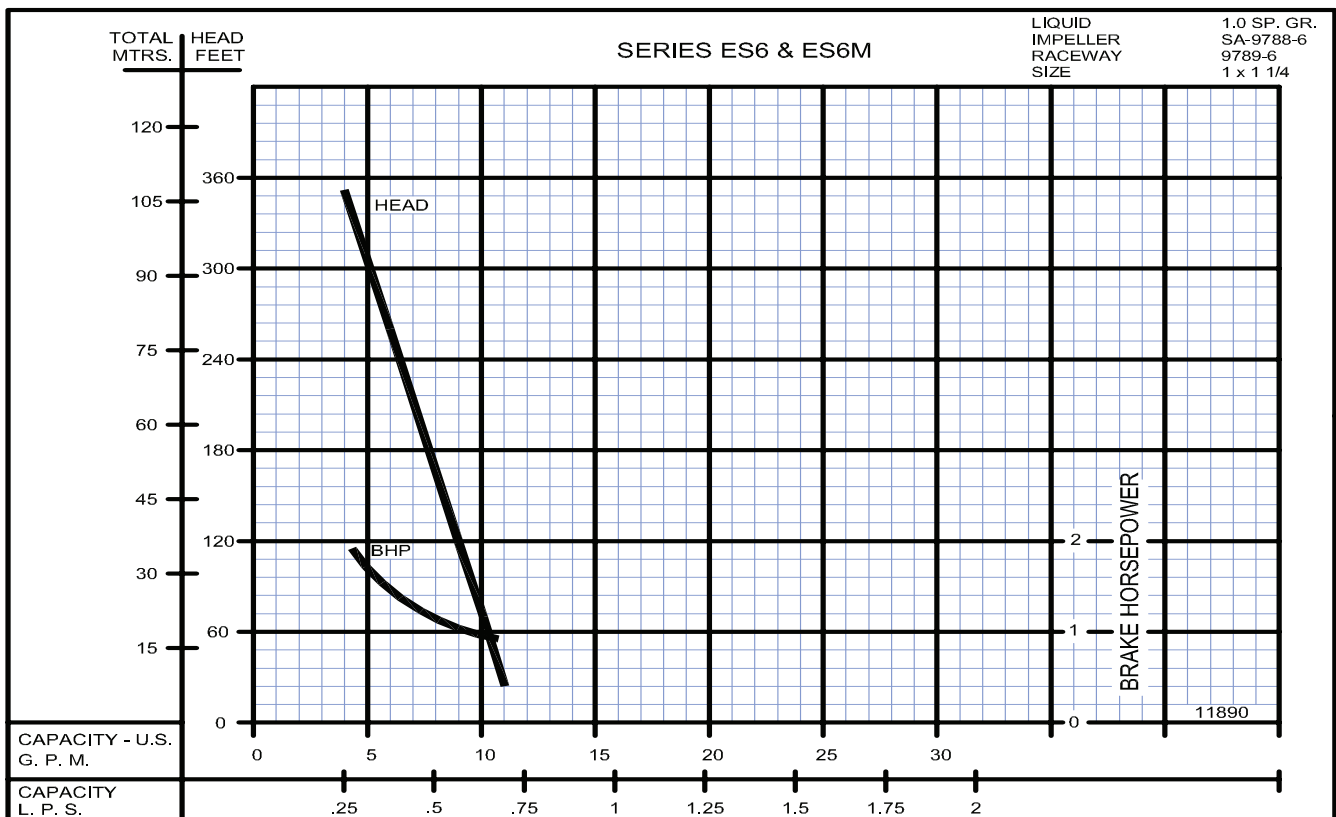
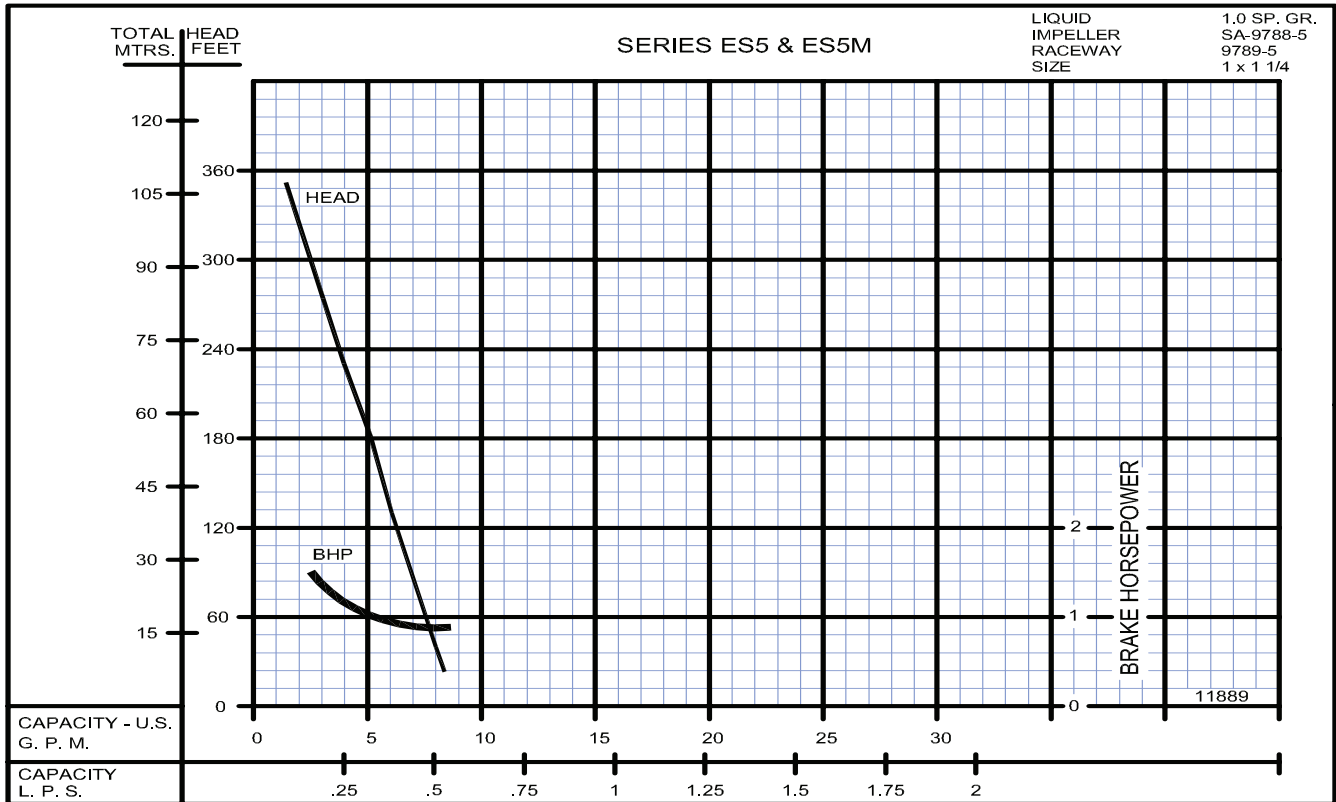


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**Frame Mounted Regenerative Turbine**



# Series: ES

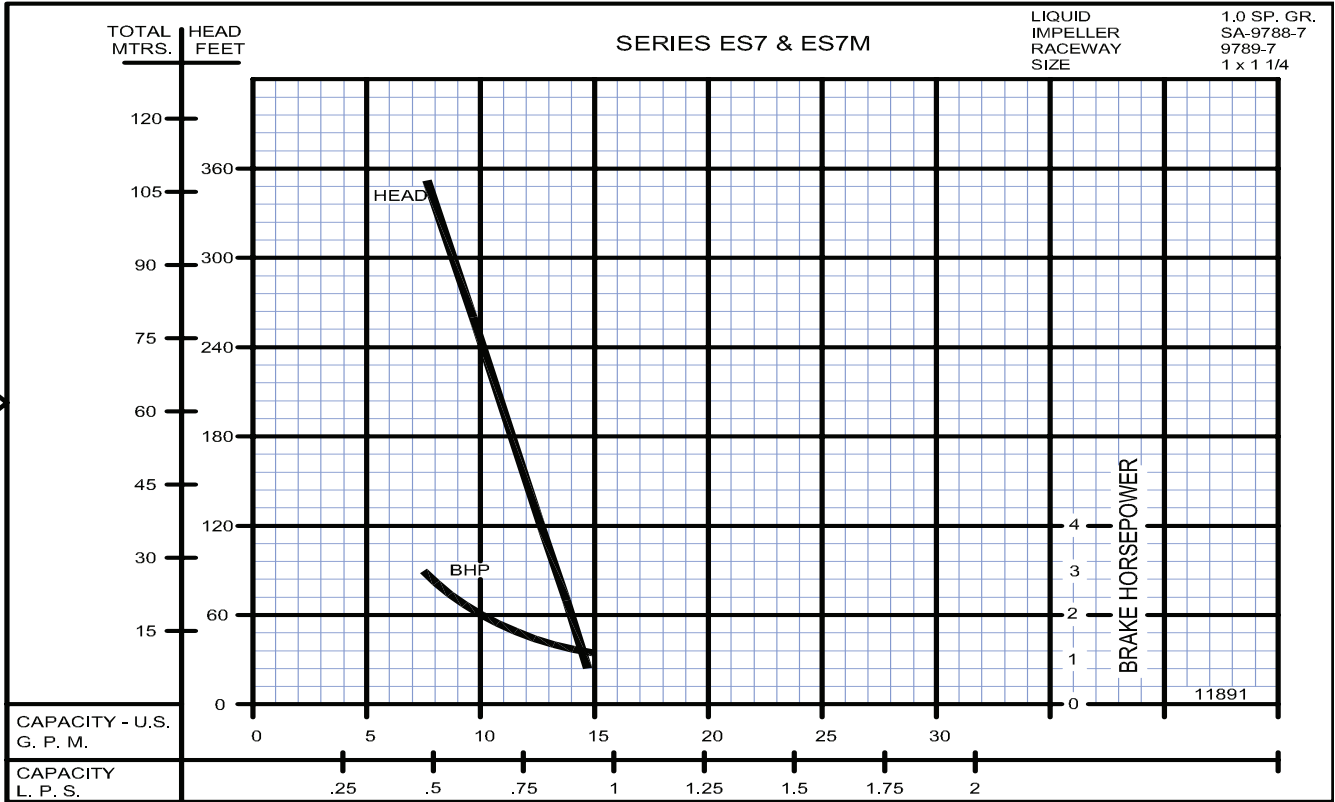
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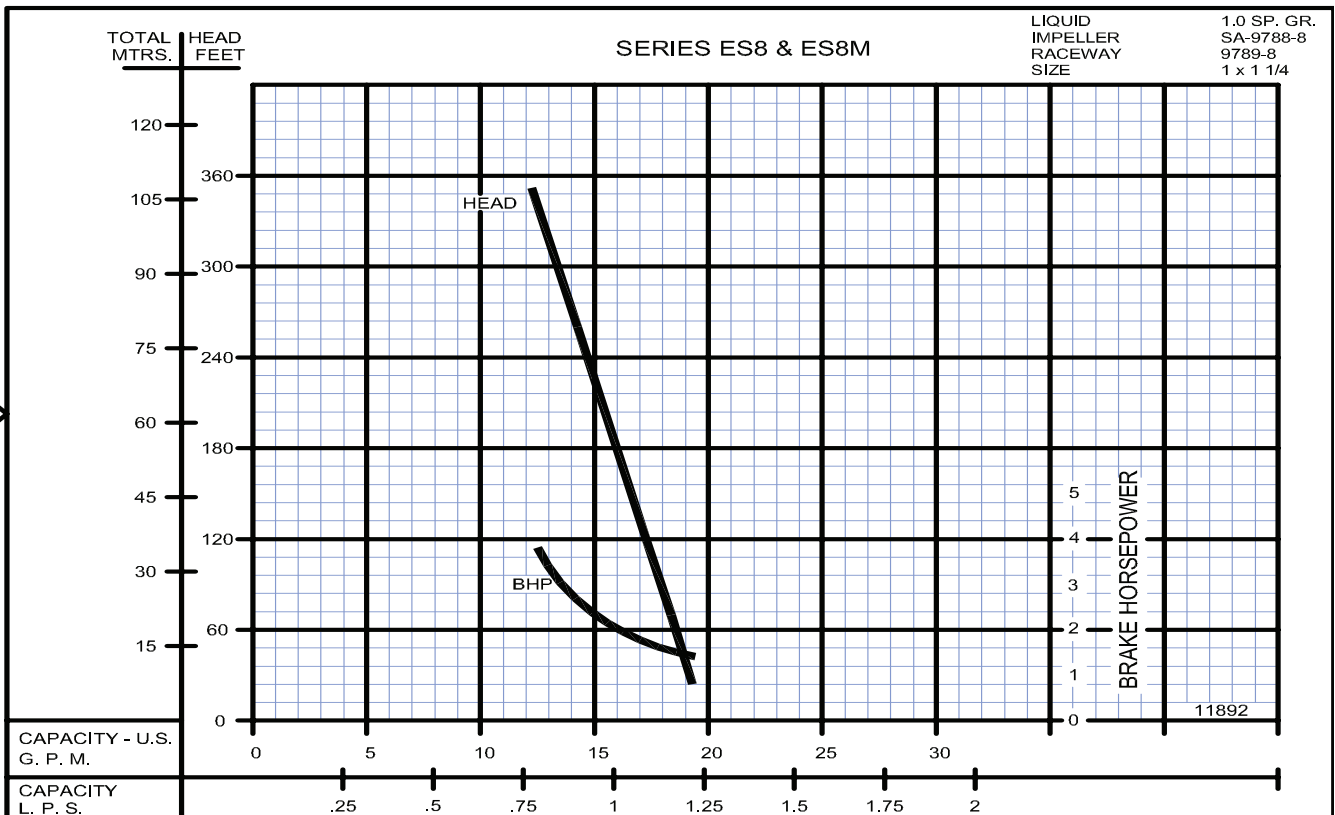
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## Frame Mounted Regenerative Turbine

2900 RPM



2900 RPM



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**Frame Mounted Regenerative Turbine**

