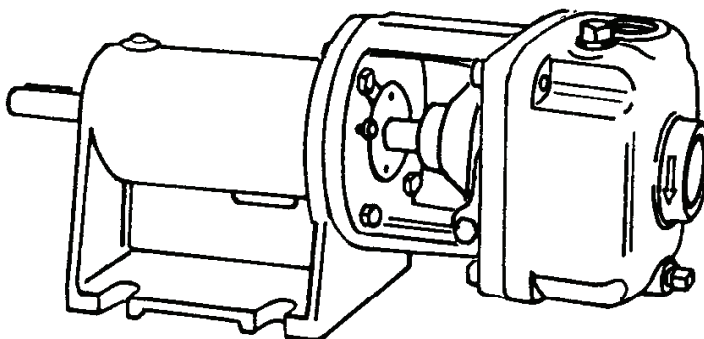


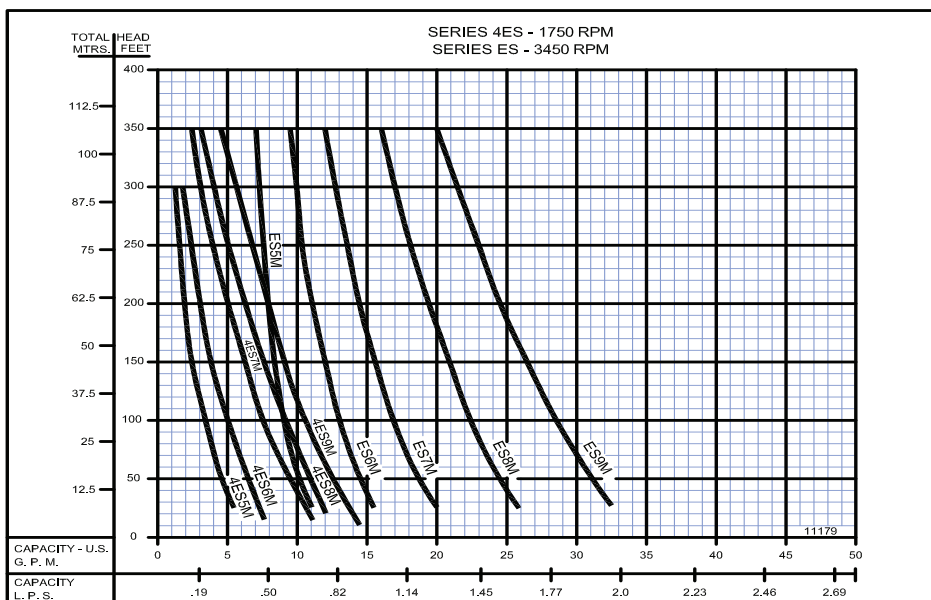


Series: ES

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.

Series: ES

60 Hz Performance



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.

SECTION 8
PAGE 14
DATE 1/06

CRANE[®]

A Crane Co. Company

PUMPS & SYSTEMS

USA: (937) 778-8947 • Canada: (905) 457-6223 • International: (937) 615-3598



Series: ES

50 Hz. Performance

Frame Mounted Regenerative Turbine

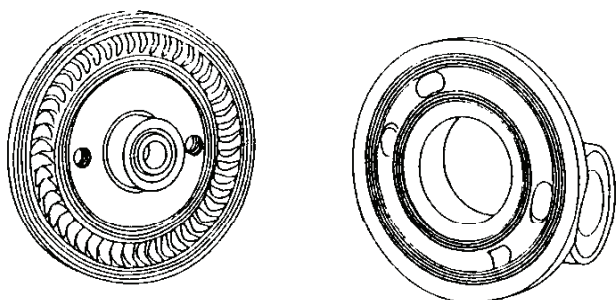
50Hz - PERFORMANCE AND SELECTION CHART															
Capacity in GPM (LPS) at Total Head in Feet (m) or Pressure Shown															
Catalog Number	PSI (kpa)	13 (89)	17.2 (118)	26 (179)	43.3 (298)	54.1 (373)	64.9 (447)	75.8 (522)	86.6 (597)	97.4 (671)	108.3 (746)	119.1 (821)	130 (896)	140.1 (965)	151.8 (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			

2900
RPM

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.

Series: ES

Features

**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® 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



USA: (937) 778-8947 • Canada: (905) 457-6223 • International: (937) 615-3598

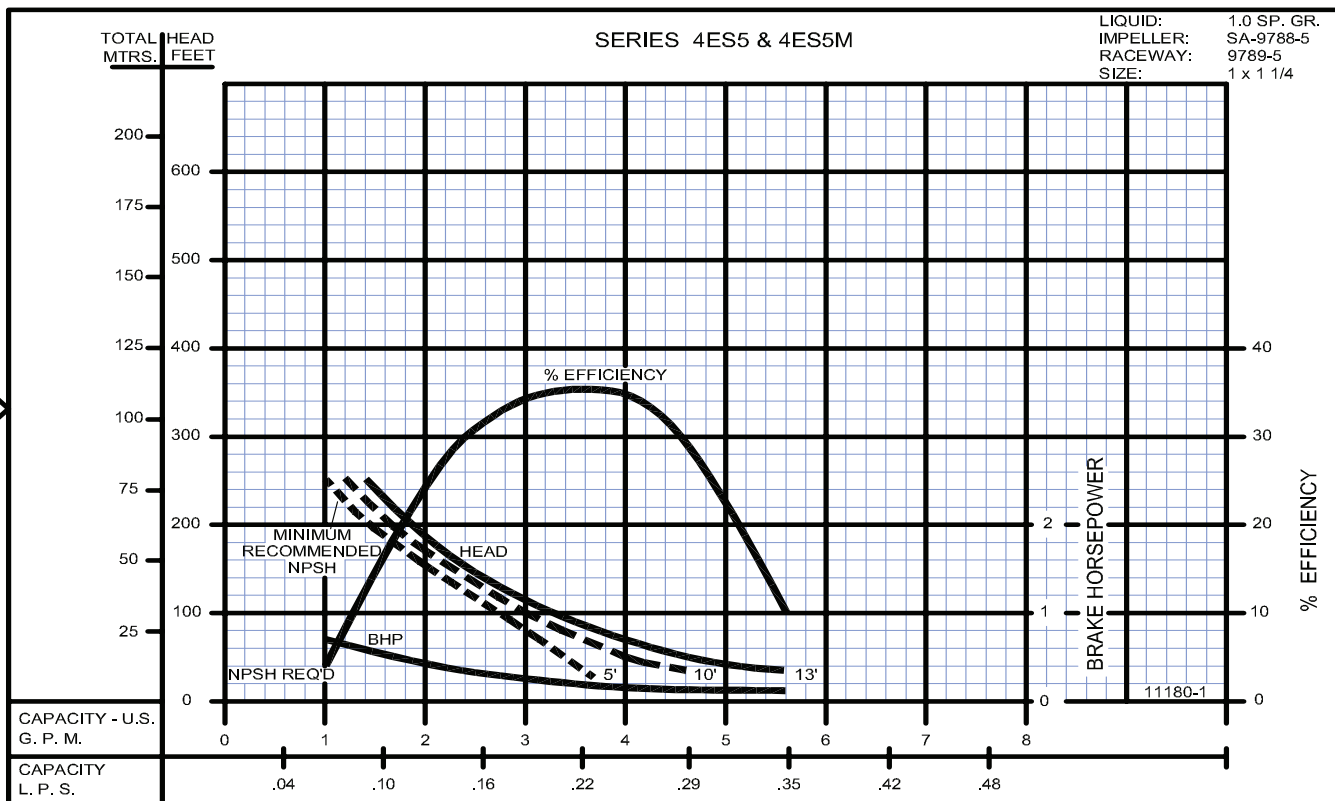
Series: ES

60 Hz Performance

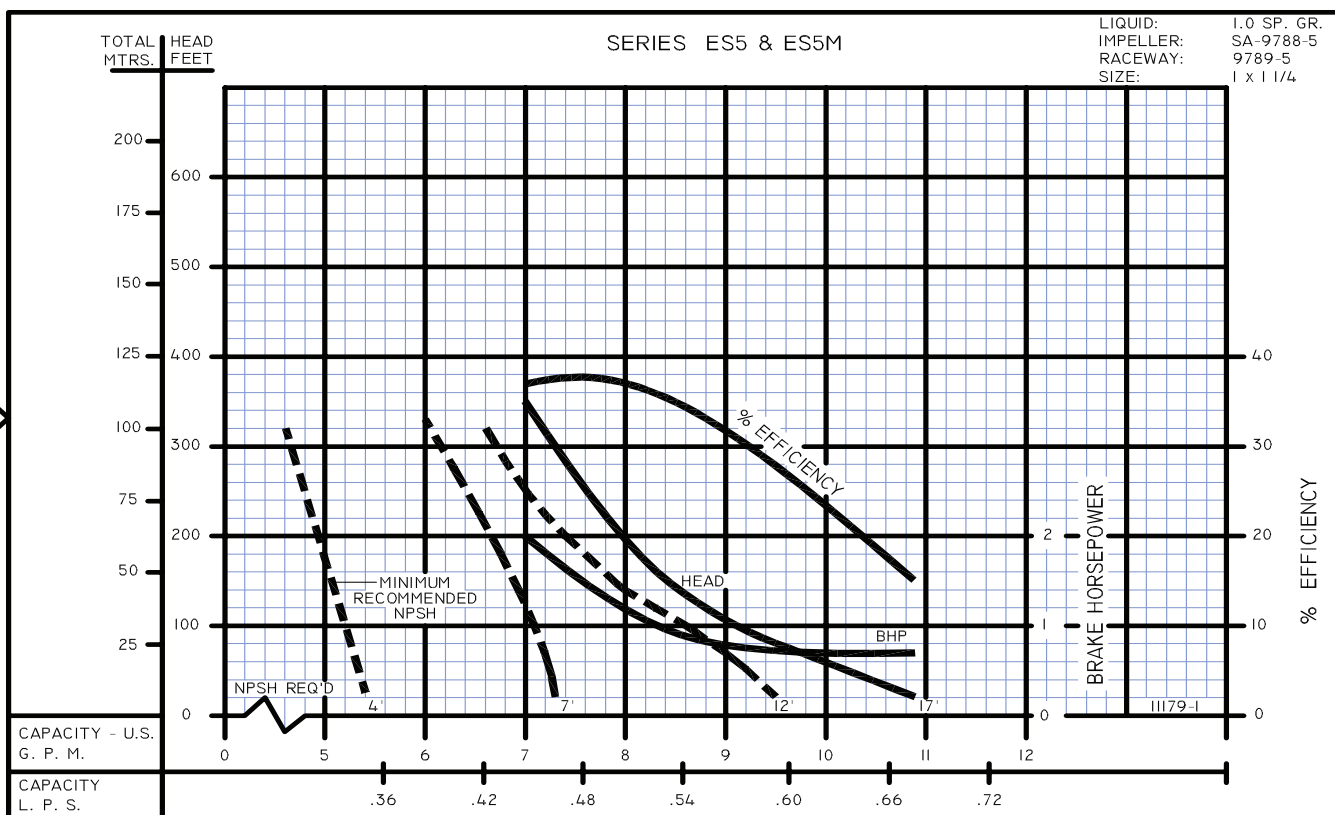
burks[®]
www.cranepumps.com

Frame Mounted Regenerative Turbine

1725
RPM



3450
RPM



SECTION 8
PAGE 18
DATE 1/06

CRANE[®]

A Crane Co. Company

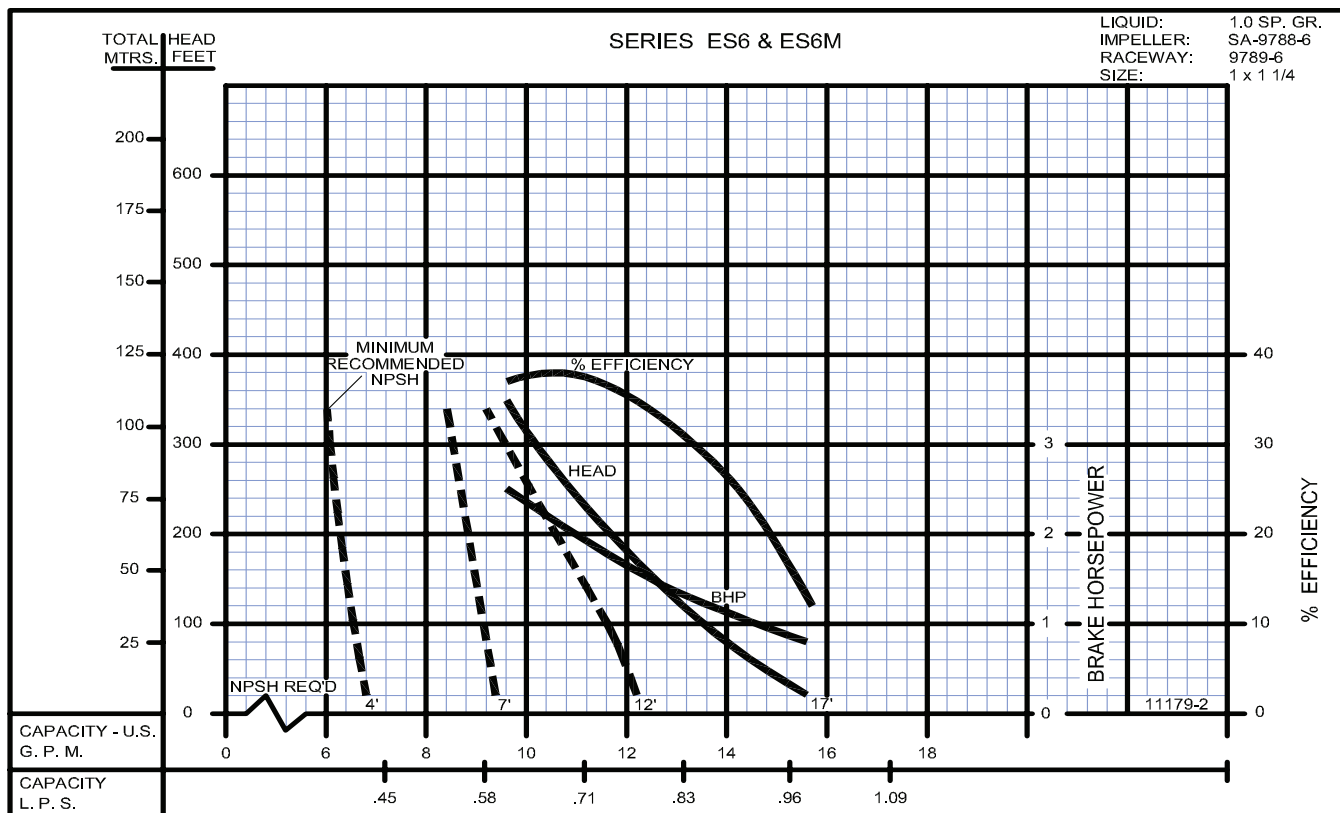
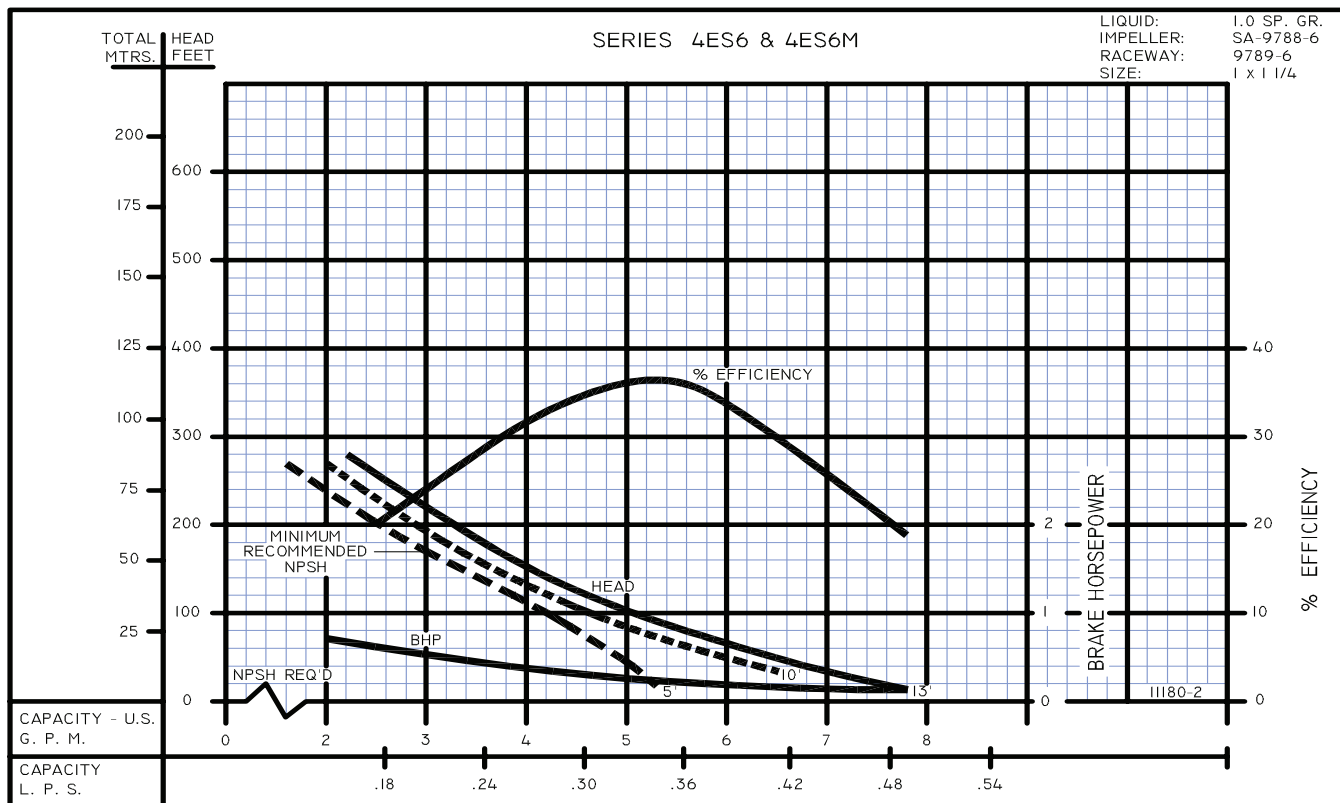
PUMPS & SYSTEMS

USA: (937) 778-8947 • Canada: (905) 457-6223 • International: (937) 615-3598

burks[®]
www.cranepumps.com

Series: ES
60 Performance

Frame Mounted Regenerative Turbine



CRANE[®]

A Crane Co. Company

PUMPS & SYSTEMS

USA: (937) 778-8947 • Canada: (905) 457-6223 • International: (937) 615-3598

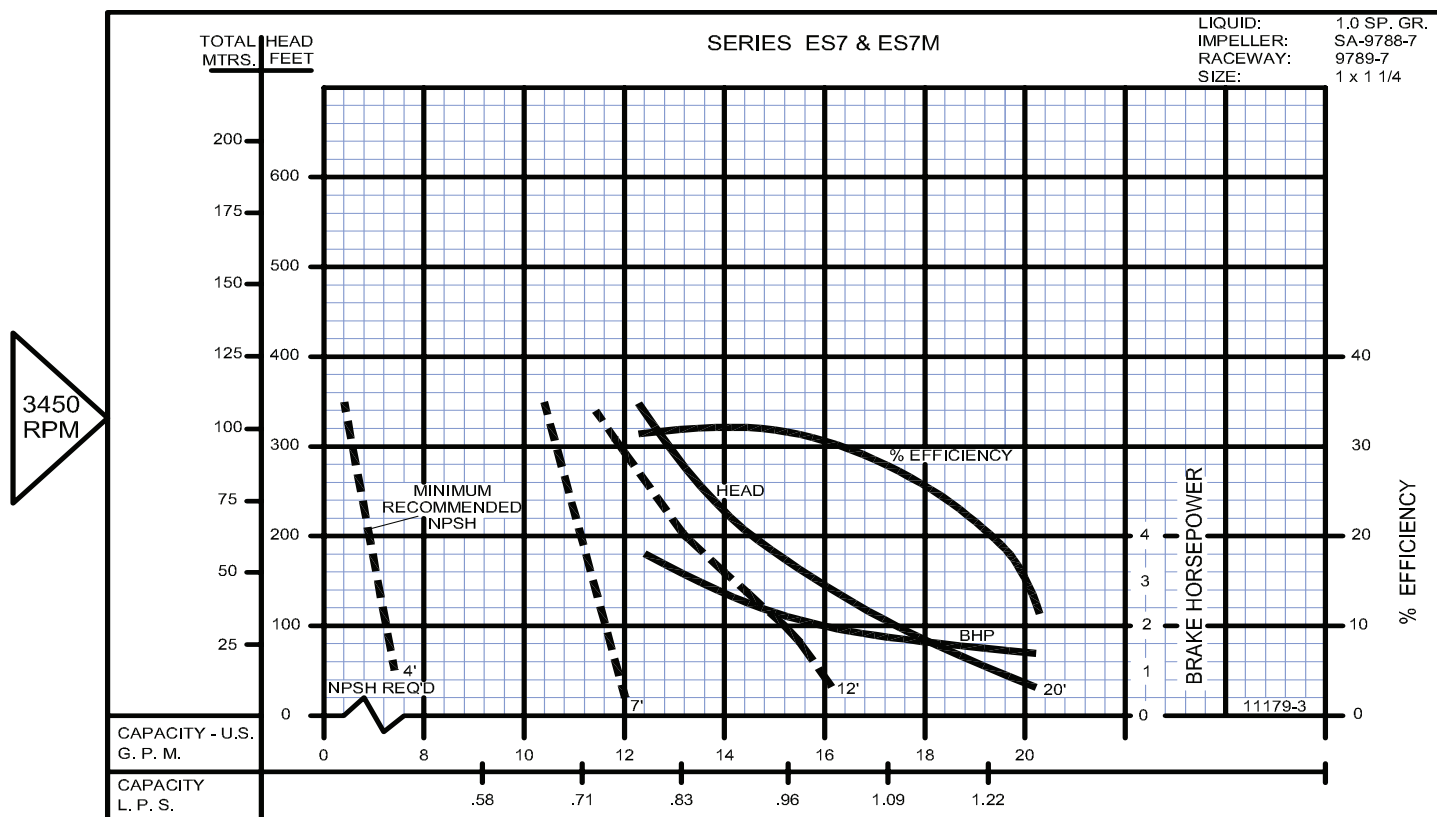
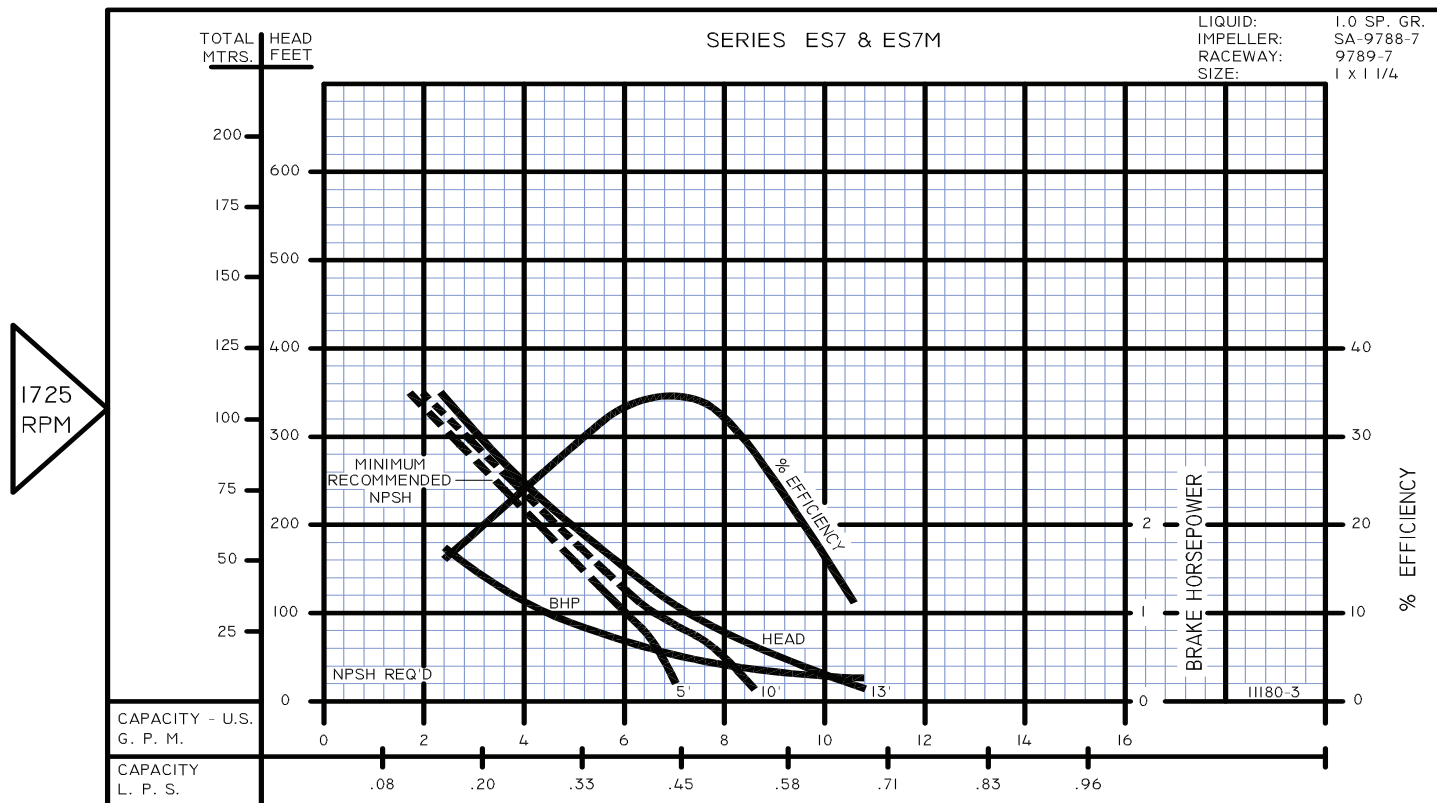
SECTION 8
PAGE 19
DATE 1/06

Series: ES

60 Hz Performance

burks®
 www.cranepumps.com

Frame Mounted Regenerative Turbine



SECTION 8
 PAGE 20
 DATE 1/06

CRANE®

A Crane Co. Company

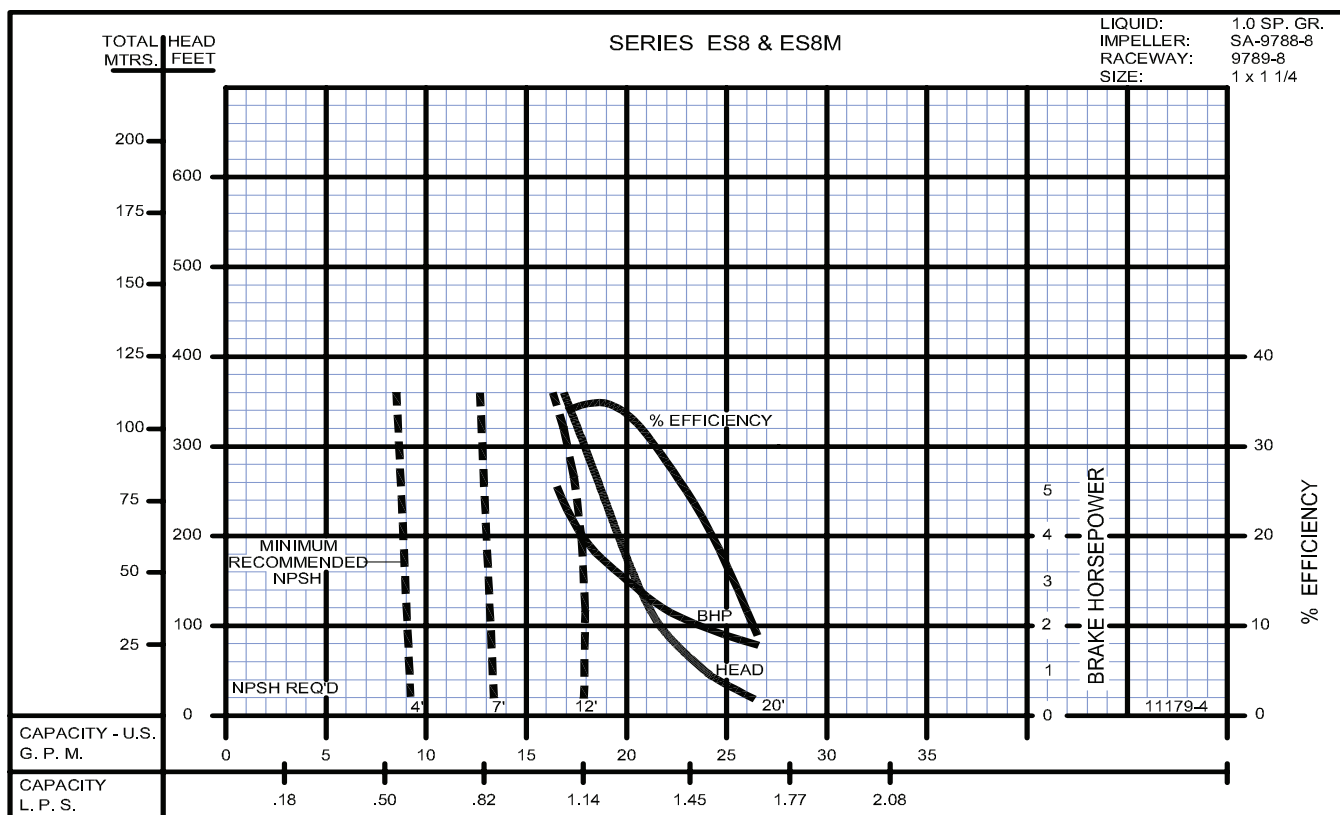
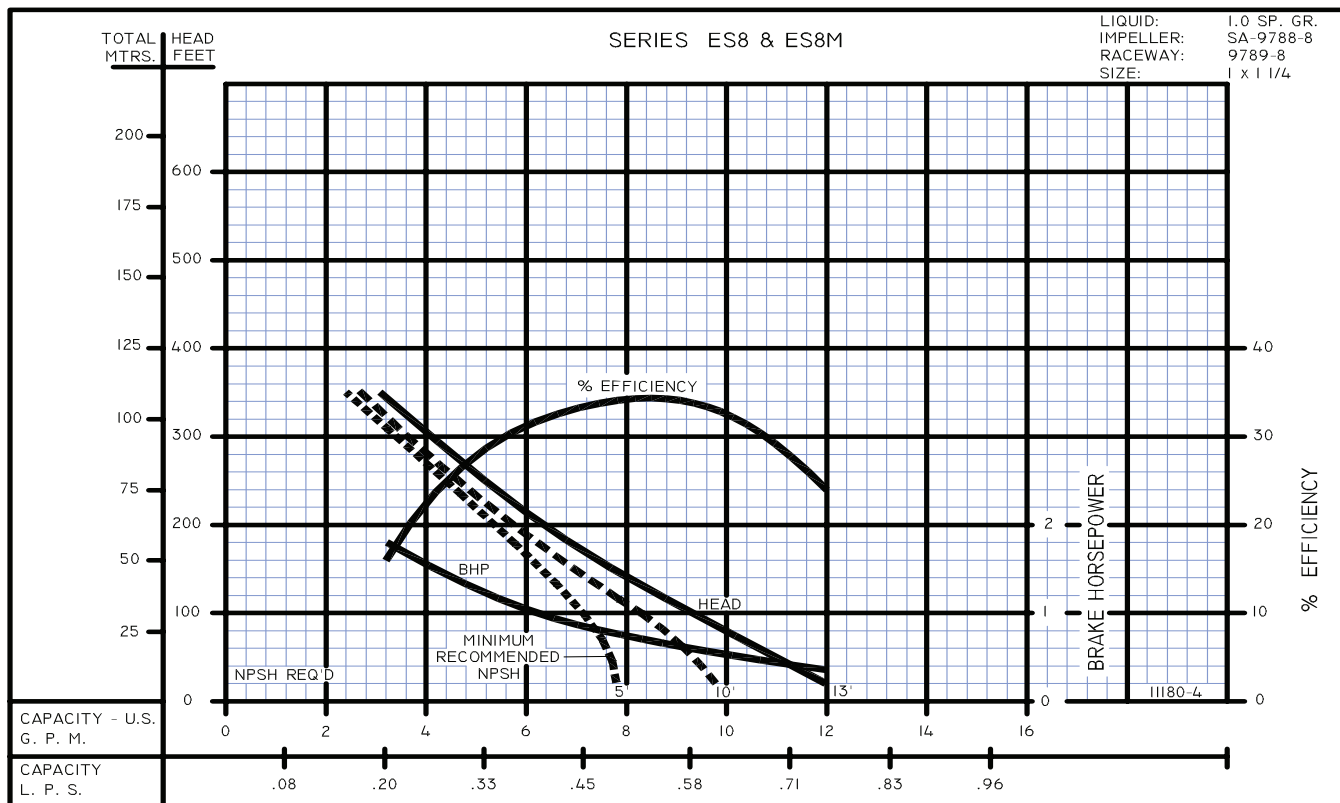
PUMPS & SYSTEMS

USA: (937) 778-8947 • Canada: (905) 457-6223 • International: (937) 615-3598

burks[®]
www.cranepumps.com

Series: ES
60 Hz. Performance

Frame Mounted Regenerative Turbine



CRANE[®]

A Crane Co. Company

PUMPS & SYSTEMS

USA: (937) 778-8947 • Canada: (905) 457-6223 • International: (937) 615-3598

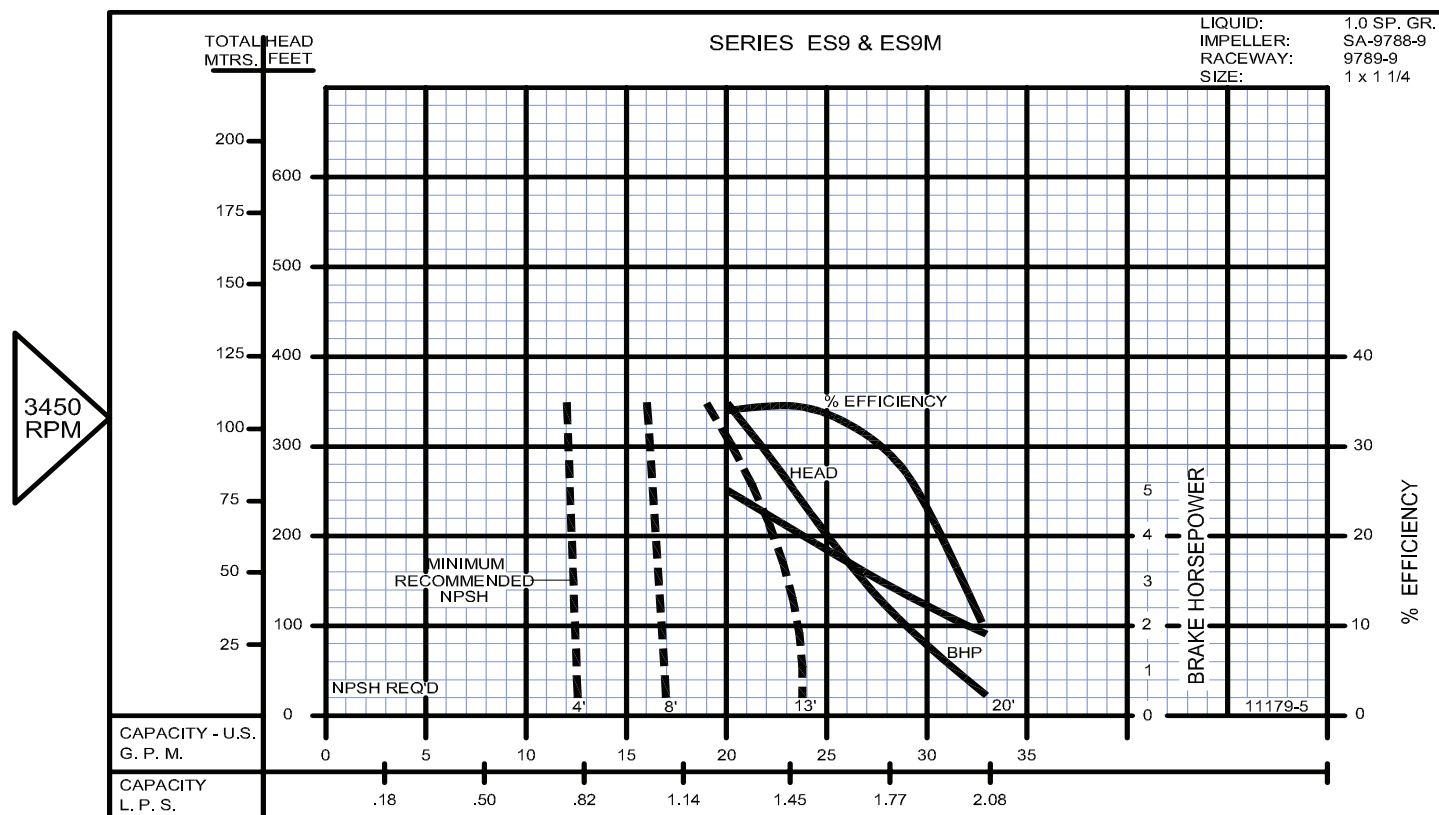
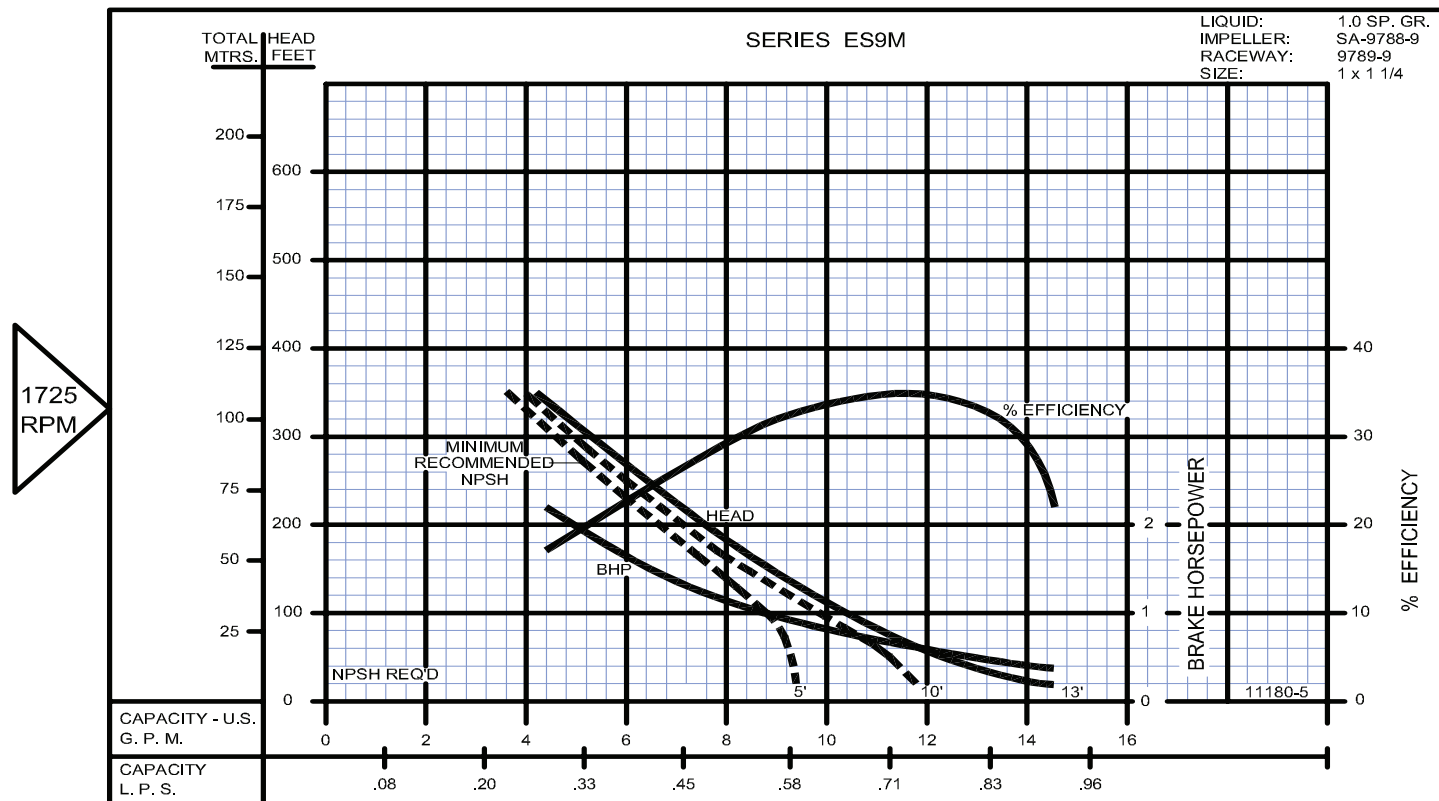
SECTION 8
PAGE 21
DATE 1/06

Series: ES

60 Hz. Performance

burks®
www.cranepumps.com

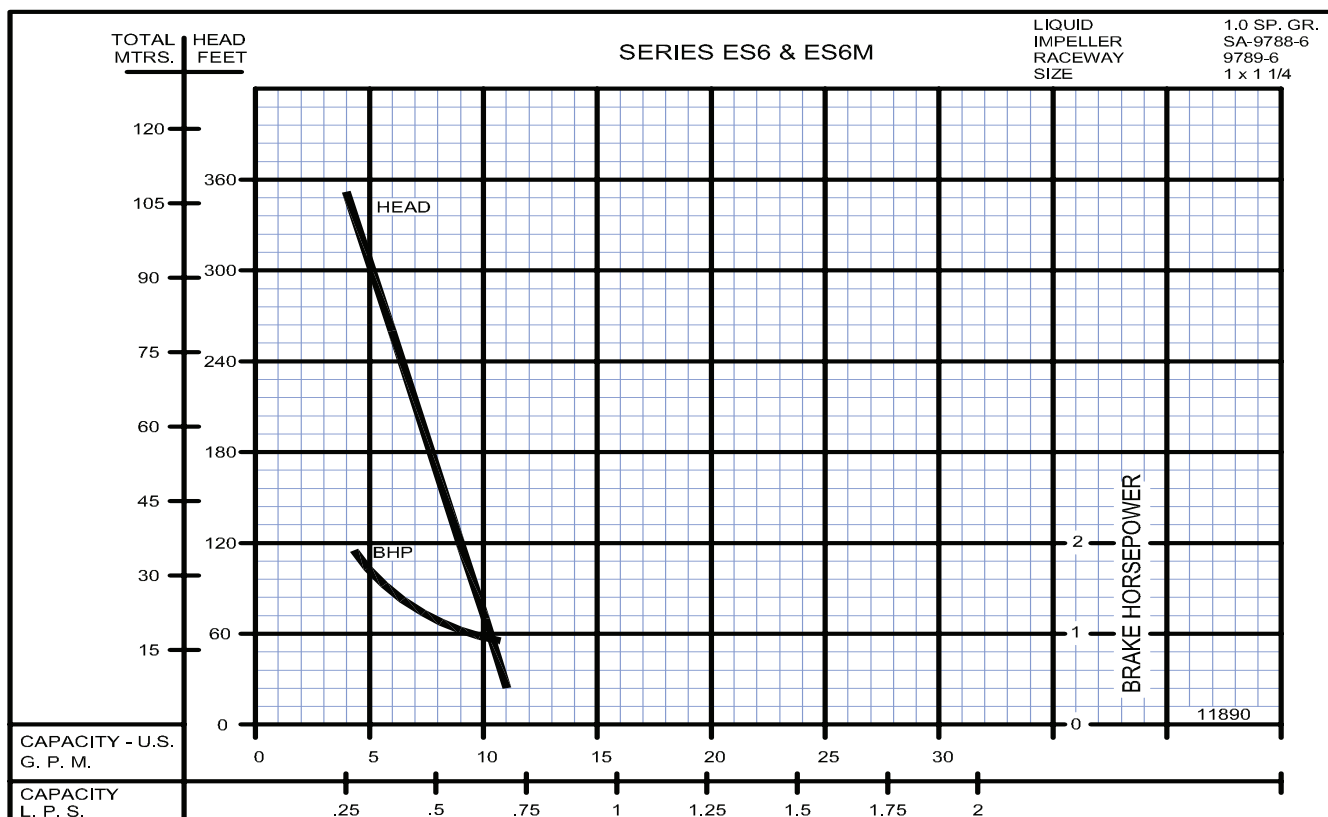
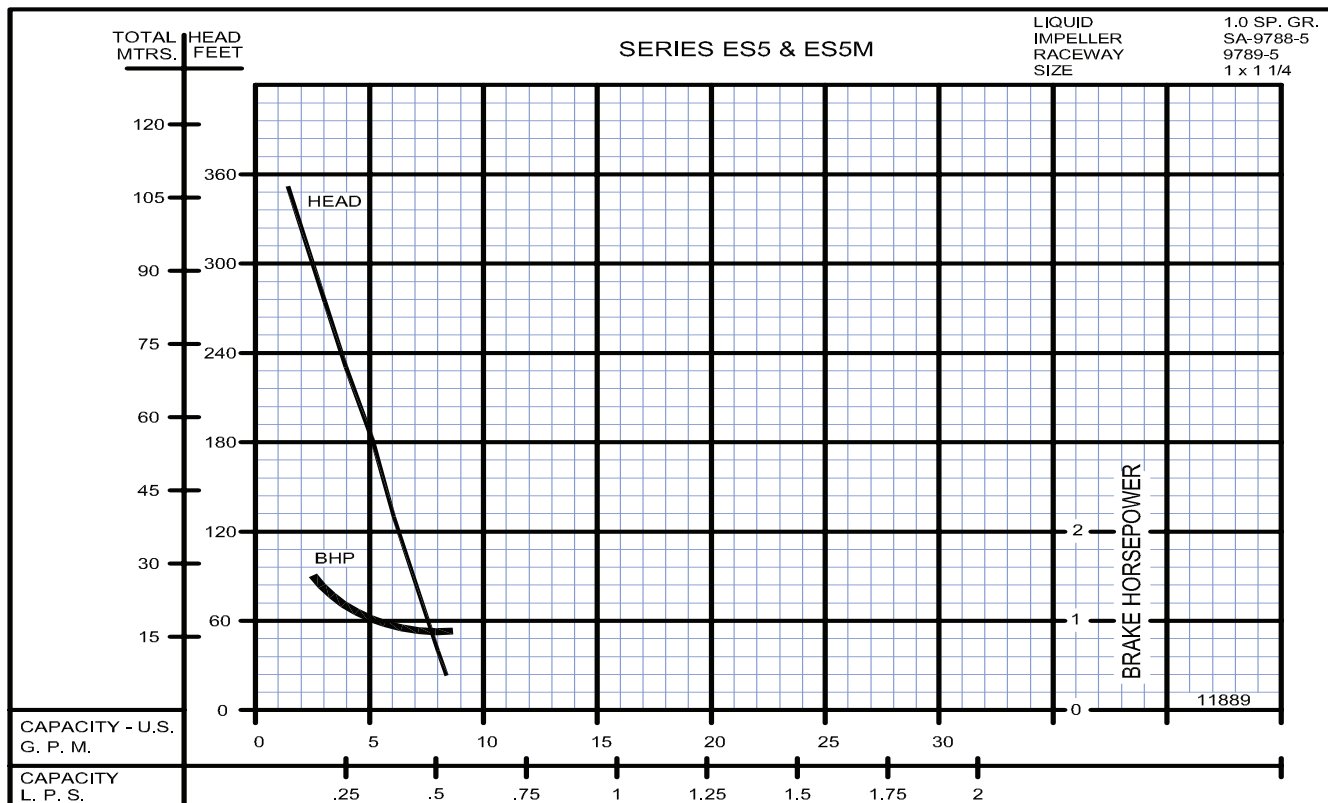
Frame Mounted Regenerative Turbine



burks[®]
 www.cranepumps.com

Series: ES
 50 Hz. Performance

Frame Mounted Regenerative Turbine



CRANE[®]

A Crane Co. Company

PUMPS & SYSTEMS

USA: (937) 778-8947 • Canada: (905) 457-6223 • International: (937) 615-3598

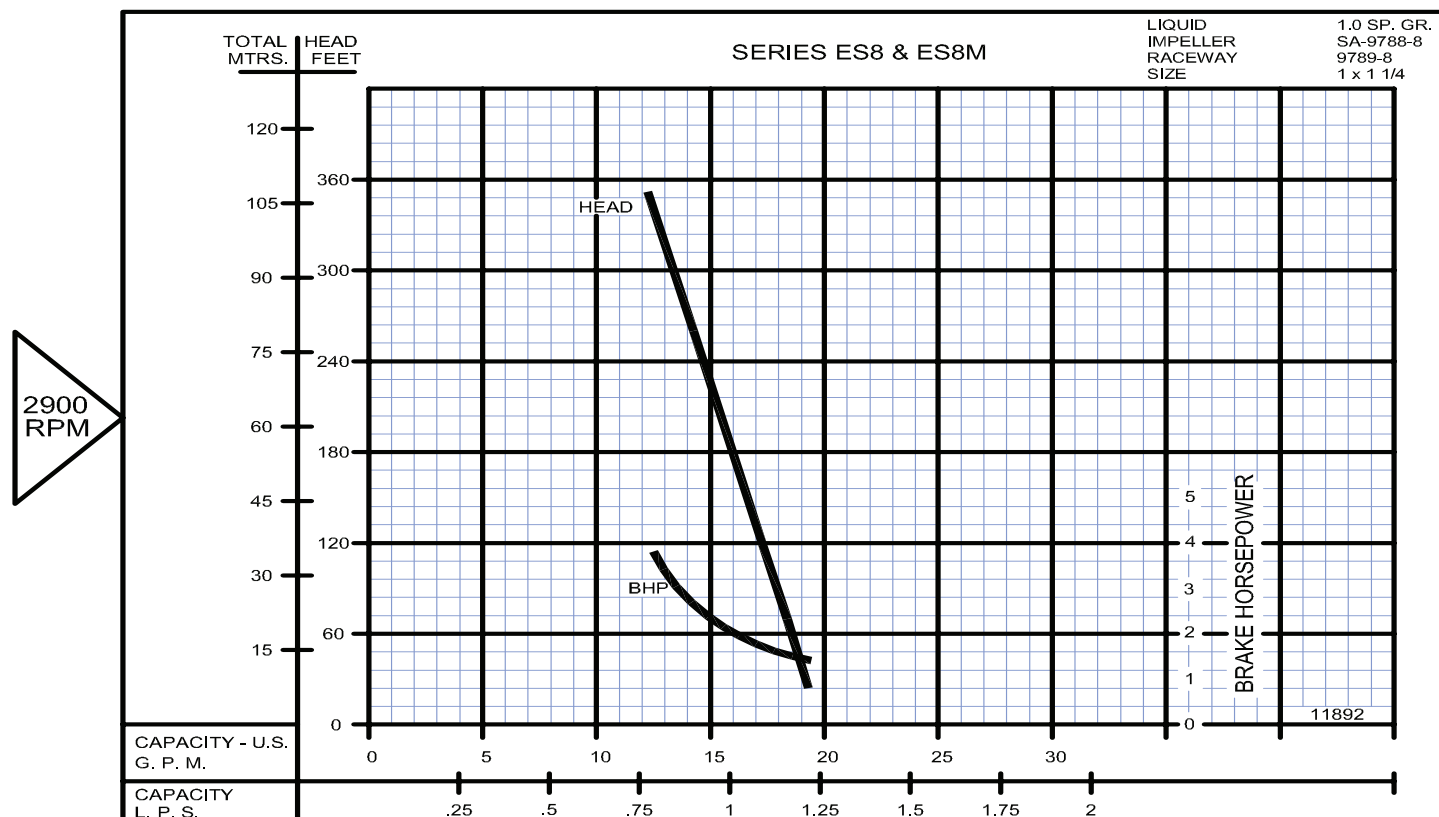
SECTION 8
 PAGE 23
 DATE 1/06

Series: ES

50 Hz. Performance

burks[®]
www.cranepumps.com

Frame Mounted Regenerative Turbine





Series: ES
50 Hz. Performance

Frame Mounted Regenerative Turbine

